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ABSTRACT

This report on Mexico was prepared as part of a comparative study of higher education in 12 countries. After a brief historical statement, the concept of autonomy, which is most important to understanding Mexican higher education, is explained. The main part of the report is divided into three sections: a description of the growth and organization of the systems; administration, planning, forms of integration and coordination; and an appraisal of the system's effectiveness and capacity to change. (Author)

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SYSTEMS OF HIGHER EDUCATION: MEXICO

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FOREWORD

An important and largely unexamined development in higher education is the emergence of systems of institutions, which are planned and managed by advisory, coordinating, or governing bodies poised between institutions and governments. Countries with highly centralized governments now seek to devolve responsibility on such organizations, while in other countries the effort is to move from individual autonomous institutions to more central planning and controls. In both cases, a balance is sought between the values of institutional independence and public responsibility. Problems of organization and procedure are similar but patterns of solution vary widely. The design and management of the systems are, therefore, of universal interest and merit comparative study.

The central issue is easy to state but extremely difficult to answer: How can systems of higher education be designed and managed so as to assure maximum flexibility for institutions with responsible monitoring of the public interest?

Everywhere on the international scene, institutions of higher education are seeing their autonomy challenged - their right to decide their own methods of operation in management, in teaching, and in setting their own goals and purposes. Whether the institutions are public or private, this independence is directly threatened. Public funds and planning call for accountability and service in the national interest as government and society may see it.

The International Council for Educational Development has, for some years, watched this development. It produced what was, to our knowledge, the first collection of essays on the subject in 1972 under the title *Higher Education: From Autonomy to Systems*. So we welcomed the opportunity provided through a generous grant from the Krupp Foundation of the Federal Republic of Germany to make a three-year comparative analysis

of how different countries are adjusting their higher education systems to meet the new demands.

Twelve countries were invited to participate. Guidelines were given for the study with the admonition that they were not to be inflexibly followed: each country needed latitude to explain its own context, development, and unique characteristics. Some problems would be more pertinent to one country than another. Further, we frankly asked for an evaluation. Aside from the first section requesting a description of the system with data on institutions, enrollment, and various patterns of governance, the body of each study rests on the informed opinion of leaders in the higher education of the country.

In this respect the study differs from many preceding efforts to draw comparisons based on quantifiable facts. Seldom has that approach yielded more than a collection of data presented in a series of separate descriptions. So we have endeavored to go one step further and provide critical analysis of the issues being faced and the solutions being tried.

The study, in its entirety, comprises: twelve books, one for each country; a volume, crossing national lines, which explores the five major topics selected for analysis - planning, administration, and management; coordination; effectiveness of the system in meeting its social purposes; the effectiveness of the system to change and adjust; and the efficiency of the system - and finally, there is a concluding report.

On a broad scale this study offers a statement about how different countries are dealing with critical problems of educational planning and operations. It speaks to social scientists and public officials who are necessarily concerned with problems of social unrest and cohesion as well as finance and changing priorities. It further holds the prospect of learning from the experience of others. Most educational systems have imported ideas from abroad, or at least they have been stimulated frequently by others to think creatively about their own systems. Also the study provides the means to learn of others' successes as well as difficulties. And finally, there is the possibility of discovering some general rules of governance that, with due caution, should be studied carefully by all those concerned with macroplanning of

higher education. There may emerge some evidence of the effectiveness of different systems in meeting their stated purposes.

We urge a careful reading of this study on Mexico. It will be enlightening to the intracountry audience as a comment on their present situation. For interested parties in other countries, it is a critique that will illuminate their own efforts and stage of development. And those working at the frontier of international, comparative studies in higher education will discover, we trust, a valuable piece in an international puzzle.

We are most grateful to Mr. Alfonso Rangel Guerra of the Secretaría de Educación Pública for the preparation of this report and to Mr. John Elmendorf of the Academy for Educational Development for his very helpful translation.

January 1978

James A. Perkins
Nell P. Eurich

PREFACE

At the invitation of the International Council for Educational Development, this report on Mexico was prepared as part of a comparative study of higher education in twelve countries.

The purpose of the study is to show how various systems of higher education operate in Mexico, what their problems are, and what solutions are being tried. The larger comparative study will allow us to learn of practices in other countries and the possibility of identifying procedures of governance which could be of interest to all of us who plan on the higher education level.

This Mexican study, after a brief historical statement, explains the concept of autonomy which is most important to understanding our higher education. The report is then divided into three parts: a description of the growth and organization of the systems; administration, planning, forms of integration and coordination; and last, an appraisal of the system's effectiveness and capacity to change.

In addition to the sources listed in the bibliography, the report reflects the experiences and observations accumulated over a number of years as the secretaria general ejecutiva de la Asociación Nacional de Universidades e Institutos de Enseñanza Superior (general executive secretary of the Association of National Universities and Institutes of Higher Education). The association engages in research on problems in higher education and their various solutions. The changes which have taken place in higher education are generally the result of internal and external factors to which universities attempt to adjust while, at the same time, they are coping with old and more traditional problems. We have tried, in this description of higher education in Mexico, to explain the factors which are influencing its growth, the obstacles to its development and, in general, the conditions imposed by the Mexican economy and society. We hope the document will be useful.

January 1978

Alfonso Rangel Guerra

INTRODUCTION

History and Development of Higher Education

In 1551 the Spanish Crown established the first university in Mexico - the Royal and Pontifical University of Mexico. Opening two years later, it offered courses in theology, holy scripture, canon law, law, rhetoric and grammar, and the arts (including mathematics, astronomy, physics, and natural sciences); a course in medicine was added later. The second institution was the Royal and Literary University of Guadalajara, established more than two hundred years later, in 1791, by Decree of King Charles IV. Courses were offered in canon law, law, medicine, and surgery.

Aside from these developments in university education, other institutions of higher learning were already in existence throughout the populated territories of New Spain. The first of these was the College of Holy Cross of Tlatelolco (the Imperial College of the Holy Cross), which also claimed distinction as the first college in America. It was founded in 1536, scarcely fifteen years after the Spanish conquest of Tenochtitlan. Established by petition of Viceroy Fray Juan de Zummarraga, its purpose was to educate the Indians, in particular to inculcate them in the ways of European culture.

Other colleges were established in different parts of the country by Franciscans, Augustin monks, Jesuits, and religious military orders. The Jesuits alone managed to start twenty-four colleges before their expulsion in 1767. Also, at the end of the nineteenth century three diocesan seminaries in Merida, Mexico City, and Puebla were turned into universities.

In the meantime, professional education began in the late eighteenth century when the royal government founded four important colleges: the College of Engraving, the College of Fine Arts of San Carlos, the Botanical Garden, and the Royal Mining Institute. The increasing trend toward the creation of profes-

sional education is apparent in the Law of Public Instruction in the Federal District, published in 1867 and modified in 1869. This law established studies in jurisprudence, medicine, agriculture and veterinary science, civil engineering, topography of mining, mechanics, and other fields. In some states these subjects, especially medicine and jurisprudence, were included in existing scientific, literary, and lay institutions, while in other states independent professional schools were established.

In 1910, Justo Sierra founded the National University of Mexico and with it proposed the first modern theory of university education in Mexico. The university was conceived not as a luxury but as an institution designed to produce the future leaders of the country. The aim was to attain the highest possible degree of academic learning and research in professional studies, and then to teach the graduates to apply their knowledge toward the advancement of the country. For a number of years, this university was the only one to provide education suitable for certain careers, but by 1925 the following major universities had been established: the University of Michoacan, the University of Yucatan, the Autonomous University of San Luis Potosi, and the University of Guadalajara. Between 1930 and 1976, thirteen new universities were founded.

Private higher education in Mexico began with the founding of the Free School of Law in 1912. This was followed by the Autonomous University of Guadalajara in 1935 and the Institute of Technology and Higher Education of Monterrey and the Iberoamerican University in 1943. The majority of current private institutions was established after 1960.

Between 1930 and 1939, a great number of Spanish intellectuals emigrated to Mexico, and with funds from the Mexican government and other sources they formed El Colegio de México, which now offers postgraduate studies in linguistics, history, economics and demography, sociology, and Asian and North African studies.

The development of institutions of higher education during the first half of the twentieth century was focused generally on technical and applied education (including research) and polytechnic and specialized institutions for technical and mechanical

professions. Schools of mechanical and electrical engineering, architecture, and commercial studies were also established. Then in 1937 the federal government established the National Polytechnic Institute, formed initially by combining technical studies from several existing institutions; later schools of medicine, economics, chemical engineering, mathematics, and physics merged with the institute. By presidential decree in 1961, the Center for Research and Advanced Studies of the National Polytechnic Institute was founded. This center is fundamentally dedicated to postgraduate studies and research, and its primary goal is high-level training for future professors and researchers.

Because of the nation's urgent need for technically trained people, regional technical institutes were created - the first in Guanajuato in 1948. Their number had grown to seven by 1960 and then sharply increased to forty-seven by 1967. To date, there are seventeen technological institutes of farming and fishing. In the approximately 230 institutions of higher education in Mexico, the total number of students (licenciate and postgraduate levels) was 564,126 in 1976.

Concept of Autonomy

The origin of Latin American university autonomy goes back to the 1918 reform movement in Córdoba, Argentina, when professors and students were granted rights in the governance of universities. Among the decisions made at the First National Congress of University Students held in Córdoba July 20-31, 1918 was the approval of an equal number of administrators, faculty, and student representatives in university governance. Thus, autonomy began as a movement toward real university and institutional democratization.

In Mexico, the concept that higher education should be a separate entity from the government originated with Justo Sierra, who, while minister of public education, established the National University of Mexico. On February 10, 1881 Justo Sierra published a bill in a Mexico City newspaper proposing the creation of a national university as an independent entity, subsidized by the government.[1] On March 25 of the same year, Sierra published another document in answer to questions raised regarding his

proposal. The biggest objection to his proposal concerned his plan to separate education from the government while still depending upon government subsidies to support educational institutions. Sierra's answer to his critics was that, in concept, education should be autonomous, and he referred to the fact that European liberal parties considered a lessening of government control in matters of education as a step toward freedom.

In another statement, Justo Sierra argued that:[2]

> A National University should be created whose orbit should be different from that of the administration but not detached from it. The government and the university should gravitate toward the same goal. This explains why I propose a government-subsidized university.

It was to be twenty-nine years before this idea became a reality. When Justo Sierra appeared before the Chamber of Deputies on April 26, 1910, he said that the reason the project had not been completed was that the problems of primary education were equally as important as the development of secondary and professional education. In defense of his plan, he said:[3]

> Higher education cannot have any other law than the law of method, which will normally be out of the government's reach. This entity, to be called the National University, will formulate its own administrative rules which will be approved by the government, if the latter has its best interests in mind.

With this limited definition of autonomy, the National University opened its doors. Not until 1929 was a law passed extending the autonomy for university governance.

Meanwhile, individual states were following the example of the National University and various arrangements were made to provide autonomy. In 1917, the local legislature of the State of Michoacan decreed the constitutional and organizational autonomy of the University of Michoacan and declared that higher education, in accordance with the state's legal regulations, was independent of the government. Similarly, a few years later, in 1923, the local government changed the University of San Luis Potosí into the Government Scientific and Literary Institute, but stated that the institution was autonomous in all aspects of its in-

ternal governance. However, six years later the 1929 law which granted autonomy to the National University of Mexico significantly increased the government's control over the institute. Specifically, the government had veto power over the university's executive board when it submitted candidates for the position of rector and professors and lecturers for appointment, veto power over resolutions made by the advisory board, and supervision of funding.

Four years later in 1933, the university was granted full autonomy and "national" status was abolished. The power of governance was granted to students and the federal government was relieved of any further responsibility for funding after the initial grant that would, supposedly, suffice for the university's proper operation. During this period, conflicts occurred on the university's governing board and at one point two different rectors were elected. By 1943, the San Luis Potosí Institute was granted autonomy which was fully recognized and finally incorporated into state law in 1949.

New laws were proclaimed for the governance of the National University in December 1944. The text was worked out by the university and submitted to the President of the Republic and the Congress for approval, which was granted shortly thereafter. In accordance with Article 10, the university, which is now called the National Autonomous University of Mexico, "is a public corporation - separated from the government - with full legal powers."

When the new charter of the National Autonomous University of Mexico was proclaimed in 1944, the only other autonomous institutions were the universities of Michoacan and Potosí and the Institute of Arts and Sciences of Oaxaca. From that date on, all universities in the country were granted autonomous status, this applied to both institutes that had been changed into universities and to newly established universities. There are only four universities which at the present time are *not* autonomous - the University of Colima, the University of Guadalajara, the University of Guanajauto, and the University of Vera Cruz. They are ruled by state government executive boards in one way or another, in the appointment of rectors, faculty and

administrative personnel, but they are still autonomous with respect to determining academic curriculum.

Even though the scope of autonomy is not the same in all universities, the following fundamental characteristics of the autonomous university can be pointed out.

University Government. The university freely appoints its authorities, governing board, advisory board, rector, trustees, and deans of faculties, institutes, and schools. Moreover, each university's by-laws allow it to plan its own organization yet remain within the boundaries of the national law.

Academic Activities. The university organizes its studies and develops its research in accordance with the principle of academic freedom and nominates its own faculty. It grants certificates, degrees, and titles; it also has the power to validate, or recognize, studies done in other national or international institutions in addition to recognizing or incorporating baccalaureate or other advanced studies completed at private institutions.

Finances. The university freely administers its endowment and plans its budget. Public autonomous university income comes mainly from the public sector (federal and state governments) and grant requests are made. In some instances, the university secures a fixed commitment from the government for an annual grant.

Scope of Autonomy. Since autonomous universities remain within the government's domain, they cannot detach themselves from the nation's basic laws. In this sense, autonomy means internal freedom of governance, but limitations are imposed by national laws. Therefore, autonomy does not mean extraterritoriality. It is important to point out that some state university laws determine, textually, the government's responsibility in protecting and maintaining university autonomy.

FOOTNOTES

1. Justo Sierra, "La Universidad Nacional (Proyecto de Creación)" [The National University (Project of Establishment)]. *El Centinela Español* (February 10, 1881). Reprinted in: Jorge Pinto Mazal, *La autonomía universitaria. Antología*, (Mexico City: Universidad Nacional Autónoma de México, 1974), pp. 23-27.
2. *Op. cit.*, pp. 30-31.
3. Justo Sierra, *Discursos, Tomo V de sus obras completas* (Mexico City: Universidad Nacional Autónoma de México, 1948), pp. 420-421.

1 DESCRIPTION AND OBJECTIVES OF THE SYSTEM OF HIGHER EDUCATION

Description

Growth

In order to show the number of registered students in institutions of higher education it is necessary to point out that the majority of these institutions also offer studies at the higher secondary level, and some at the postgraduate level.[1] Consequently, we have classified enrollment figures according to categories.

During 1975-76 there were 970,248 students registered at institutions of higher education in the country; 406,122 in the higher secondary level, or baccalureate; 545,182 in licenciate; and 18,944 at the postgraduate level (professorship and doctorate).[1] In 1965-66, the total was 255,817: 112,717 in baccalaureate; 141,194 in licenciate; and 1,906 in postgraduate levels. The total increase of students in this ten-year period was 279 percent: 260 percent in baccalaureate; 286 percent in licenciate; and 894 percent in postgraduate studies. These increases in student population are due to several factors.

Population Increase of the Country. According to the 1970 population census, 48.9 percent of the total population was fifteen-years old or less. In 1960 this age group comprised 46.4 percent and in 1950 43.7 percent. The twenty-five year old group was 39.2 percent in 1950, 37.2 percent in 1960, and 35 percent in 1970. The changes in population distribution according to age group are shown in Table 1.

Policy of Expansion of the System. In 1959, on the basis of a national commission's proposal to find solutions for primary education (a great percentage of school-age children do not attend school or drop out), an Eleven-Year Plan was put into ef-

fect. This plan was conceived with two goals in mind: to increase enrollment opportunities in the first grade for children who have never attended school; and to successively add higher grades which are lacking in the majority of rural schools.[2] The plan required the building of classrooms, training of teachers, and improvement of teaching. The effects of the Eleven-Year Plan for extension and improvement of primary education were noticed between 1960 and 1970 when enrollment in primary education jumped from 4,885,000 to 8,873,000 students. This increase has also had its repercussions on the succeeding levels of education, starting from secondary school. The plan was not only completed within its prescribed period, but its policy of expansion in primary education was continued and extended to secondary education. Institutions of higher education also increased their enrollment due to this policy and received larger government grants in order to keep up with this growth.

Table 2 shows the increase of student enrollment at the primary, secondary, higher middle, and higher education levels. Table 3 shows the increase in student enrollment at the higher levels during 1969-1970/1975-1976. With this increase in student enrollment, the number of higher education units in universities and other institutions has also grown, as well as the number of professors.

During the five-year period 1969-1976, the number of students entering higher educational institutions jumped from 68,193 to 162,662. The number of students at the postgraduate (doctorate and professorship) level increased from 6,461 in 1970-1971, to 18,944 in 1975-1976. In the same period, the number of institutions offering postgraduate studies increased from thirteen to forty-three.

TABLE 1

National Population by Age Group

Population	1950		1960		1970	
Up to 15-years old	11,270,288	43.7%	16,205,849	46.4%	23,387,737	48.5%
From 16 to 19-years old	2,116,371	8.2%	2,781,523	7.9%	3,953,334	8.2%
From 20 to 24-years old	2,299,334	8.0%	2,947,072	8.4%	4,032,341	8.3%
25 years or more	10,105,024	39.2%	12,988,685	37.2%	16,851,826	35.0%
Total	25,791,017	100.0%	34,923,129	100.0%	48,225,238	100.0%

Source: 1950, 1960, and 1970 Population Census.

TABLE 2

Student Enrollment at Lower Levels, 1960-1976

	Primary Education	Secondary Education	Baccalaureate	Higher Education
1960	4,885,000	158,648	20,508	76,269
1970	8,873,000	1,219,800	230,676	218,637
1976	12,066,000	2,094,200	607,053	545,182

Source: Secretaría de Educación Pública y Asociación Nacional de Universidades e Institutos de Enseñanza Superior.

TABLE 3

Student Enrollment Increases at the Higher Level (Licenciate), 1969–70/1975–76

School Years	Student Enrollment
1969-1970	218,637
1970-1971	256,752
1971-1972	288,204
1972-1973	355,225
1973-1974	399,146
1974-1975	475,888
1975-1976	545,182

Source: Higher Education in Mexico, A.N.U.I.E.S., 1976.

TABLE 4

Number of Higher Education Schools and Professors 1969-1976

School Years	Number of Higher Education Schools	Number of Professors
1969-1970	367	22,904
1970-1971	400	26,485
1971-1972	421	28,065
1972-1973	432	31,037
1973-1974	456	36,350
1974-1975	584	41,893
1975-1976	646	47,832

Source. Higher Education in Mexico, A.N.U.I.E.S., 1976.

Institutions, Student Enrollment, Faculty, and Finances

Institutions

Mexican education is ruled by Article 3 of the Political Constitution of the Mexican States, and its statutes are contained in the federal Law of Education. In accordance with present legislation, educational institutions are divided into public and private but each is subdivided according to defined legal characteristics.

Public Autonomous Universities. These were created by legislative action of the national Congress or by state assemblies. The law by which they were created established their autonomy. They are decentralized from the government, with full legal powers, which means that they are authorized to appoint their own governing boards, develop and execute curriculum planning, and manage their endowment.

Public State Universities. These universities, established by local assemblies, are organizations with full legal power; they can be decentralized from the government, but have no autonomy in appointing officials. They can, however, make decisions regarding academic activities.

Institutions Dependent on the Government. These institutions were created by the government. Their officials are ap-

pointed by either the federal or state government, which also establishes procedures for administration, planning, and study requirements. The majority of federal government institutions depend directly on the Secretaría de Educación Pública, but they may also be dependent on other ministries. Article 27 of the federal Law of Education establishes that "the planning, study programs, and educational instruction may be carried out by the federal government through any other governmental department or secretariat." These other federally-dependent secretariats may also issue certificates, diplomas, and degrees for studies completed.

Private Independent Universities. These are private organizations offering studies approved by the President of the Republic in accordance with the by-laws for the ratification of degrees granted by independent universities.

Private Institutions Recognized by the Secretariat of Public Education, by State Governments, or by Quasigovernmental Organizations. In accordance with the Constitution of Mexico, studies offered in private institutions must receive authorization from specially designated government bodies in order to be officially valid. This authorization is required for primary, secondary, or normal private school education, for any type of private school for workers and peasants, and for other studies, among which private education is included. Authorization can be granted by the Secretariat of Public Education, by the government (Article 35 of the federal Law of Education), and by quasigovernmental organizations, if permitted by their by-laws.[3]

Student Enrollment

Student enrollment at the higher education level (licenciate and postgraduate) comprises: 452,543 students registered in public institutions, and 80,659 in private institutions. In terms of percentages, this totals 84.9 percent and 15.1 percent respectively.[4]

Of students registered in institutions of higher education; 342,248 are registered at public and state autonomous universities; 93,938 in technological institutions, farming, and fishing; 9,386 in public institutions dependent upon the government; 61 in quasipublic institutions (postgraduate studies only), and

6,810 in institutions dependent upon the state. Table 5 shows the distribution of student enrollment according to type of institution. As can be clearly seen, a large percentage of students is served by public institutions. In other words, Mexican higher education is comprised mainly of decentralized organizations funded by the federal government and other federal entities.

TABLE 5

Student Enrollment Distribution in Higher Education Level (Licenciate and Postgraduate) by Type of Institution, 1976

Type of Institution	Student Enrollment
Public, Autonomous, and State Universities	342,348
Technical, Farm, and Fishing Institutions (Secretariat of Public Education)	93,938
Institutions of Various Types (Secretariat of Public Education and Other Secretariats)	9,386
Quasipublic Institutions	61
State Government Dependent Institutions	6,810
Self-Governing Private Institutions	12,735
Private Institutions with Official Recognition of Studies	67,924
Total	533,202

Source: National Association of Universities and Institutions of Higher Education.

Faculty

In all the institutions of higher education in 1976 there was a total of 47,832 faculty members of whom the great majority devoted only part of their time to teaching. The number of faculty members who do devote themselves almost exclusively to teaching are few, scarcely 5,403, 11.7 percent of the total. Furthermore, 3,659 faculty members are half-time, as opposed to part-time, teachers. In 1970, the total number of faculty members in higher education was 26,485, of whom 2,389 were full-time teachers (that is 8.8 percent) and 1,378 were on a half-time basis. In 1975-1976, the numbers were 4,903 and 3,659, respectively, out of a total of 47,832. The total percentage increase in the number of faculty members since 1970 has been 74.4 percent.

The distribution of full-time faculty members by type of institution shows some very notable differences. While public institutions collectively include a total of 4,670 full-time teachers, private institutions have only 733 full-time teachers. Table 6 shows the total numbers of full-time, half-time, and part-time faculty members by type of institution.

Finances

The economic resources of institutions of higher education come from federal and state appropriations, from tuition, from other student fees and from income from various private sources (gifts and grants). In our discussion, we will designate those funds coming from federal or state governments as "public sector" and all the rest as "institutional income."

Higher education in public institutions is practically free to the student. Annual tuition varies according to the particular institution, but generally it runs from merely symbolic amounts ($10 or $50 pesos)* up to $600, $700, or $900 pesos. Only two public institutions charge high tuition, and this is mitigated by a system of financial aid for students. Accordingly, the costs of higher education fall basically on the government. On the other

*These peso amounts are quoted as of 1976 when the peso was valued at approximately 8 U.S. cents. *(ed.)*

hand, most private institutions must entirely bear their own costs.

In 1976, the public universities had a total budget of $7 billion pesos, of which the public sector accounted for $6.4 billion pesos and the remainder was obtained from their own institutional income. For institutions offering technical instruction, including fishing and animal husbandry, the public sector provided $1.9 billion pesos and $8.5 million pesos came from their own sources. A similar breakdown in funding can be observed for the quasigovernmental institutions and for those dependent on state funds. On the other hand, in private institutions, their own resources account for most if not all of their income. Table 7 shows the breakdown of public sector and institutional funding sources according to types of institutions.

Some clarification concerning the figures in Table 7 may be in order. With reference to the appropriation from the public sector, the federal government provided $7,860,571,000 pesos of the $8,713,288,900 total, and the balance $852,717,000 came from the states. For independent private institutions, public expenditures are chiefly devoted to El Colegio de México, with the balance going to the Instituto Technológico de Monterrey.

Institutional Governance and Organization

Various kinds of organizational patterns prevail in the universities and institutions of higher education, both with respect to the governing bodies and in terms of the manner of participation by faculty and students in the management of these bodies at the institutional level. We will discuss these organizational patterns and describe the various authorities that carry out the governance of the public autonomous higher educational institutions (essentially, the universities).

It is important to note that universities generally are made up of faculties and schools and, with very few exceptions, that departmental organization does not exist. Nonetheless, the various scholarly units, be they schools or departments, all participate in collegiate governance.

TABLE 6

Number of Professors by Categories

Institution	Full-Time Professors	Half-Time Professors	Part-Time Professors	Total
Public, Autonomous, and State University	3,297	1,546	21,080	25,923
Technical, Agricultural, and Fishing Institutions, (Ministry of Public Education)	1,095	1,635	6,015	8,745
Institutions of Diverse Specialties (Ministry of Public Education and other Ministries).	241	99	906	1,246
Quasipublic Institutions	37	—	—	37
Institutions Dependent on State Governments	—	—	493	493
Independent Private Institutions	347	63	573	983
Private Institutions with Official Validity	386	316	8,062	8,764
Total	5,403	3,659	37,129	46,191

Source: Asociación Nacional de Universidades e Institutos de Enseñanza Superior.

TABLE 7

Income From Public Funds and From the Institution's Own Sources: By the Type of Institution, 1976 (Mexican Pesos)

Type of Institution	Public Funds[1]	Institutional Sources	Total
Public Federal and State Autonomous Universities	6,400,415,400	471,801,500	6,872,216,900
Technical (Animal Husbandry, Agriculture, Fisheries) Institutions (Secretariat of Public Education)	1,964,754,700	8,534,900	1,973,289,600
Other Specialized Institutions (Secretariat of Education and other Federal Secretariats)	274,442,800	658,100	274,100,900
Quasigovernmental Institutions	18,300,000	1,400,000	19,700,300
Institutions Dependent on State Governments	12,055,700	397,300	12,453,000
Independent Private Institutions	34,250,000	218,433,000	252,683,000
Private Institutions Recognized by Official Government Agencies	10,070,000	662,418,700	672,488,700
Totals	8,713,288,900	1,363,643,500	10,076,932,400

Source: National Association of Universities and Institutions of Higher Education.

[1]For the figure on the public expenditures for higher education in 1976, government allocations planned up until the month of July were included. With respect to the relationships to subsidies by the state governments, the quantities budgeted to the universities at the beginning of that year were used.

Board of Governors. This organ of collegiate government operates in a considerable number of universities. The Board of Governors was originally created as a part of the Charter of the National University (UNAM) in 1945, which incorporated this concept from the laws of other types of institutions. Its basic function is to designate top officials (rector and deans of schools and faculties), but it also serves as arbitrator whenever there are conflicts between university officials. In some universities the board is recognized as the final authority in resolving serious internal disagreements.

The largest board, having fifteen members, is that of the UNAM; the smallest board has only five members. Board members are usually elected by the university council on the basis of academic merit, teaching or research experience at the institution, or indication of a strong interest in higher education. Members cannot hold administrative jobs in the institution while they are on the board and must wait a fixed period of time following their service before they can do so.

The University Council. This is the unit of collegiate governance which includes faculty and student representatives. With few exceptions, it is the ultimate authority in public universities. It is presided over by the rector, and the deans of the faculties, schools, and institutes are members as well as students and faculty. This triple composition is typical of the councils of all universities, but the relative numbers of representatives varies. Members are of two types, elected and exofficio. The latter serve by virtue of their administrative positions; the elected members are all representatives of either students or faculty. In some cases, the number of elected faculty members is equal to the number of administrators, that is, for every faculty, school or institute there is one exofficio member and one elected faculty member, plus an elected student member. There are universities in which there are two faculty members and two student members for each academic unit. There are even, in some universities, additional representatives of student organizations or alumni groups. In some councils representation is set up to produce parity; that is the number of student members is exactly the same as the total of all other categories.

The function of the university council is to determine the internal rules and regulations of the university, to approve programs of study, to create or eliminate faculties, schools, or research units, as well as degree programs and specialized graduate studies, to approve the institutional budget, to decide matters relating to accreditation, and, in general, to assume any and all other responsibilities not specifically assigned to other levels of governance. In some universities the council appoints (or nominates) the rector and the deans. When there is no governing board, the council resolves internal disputes.

University Senate. This is the governing body which, in the private universities, fulfills the functions - or some of them - of the university councils in the public universities. The university senate is made up of the rector, academic representatives, graduate and postdoctoral student representatives, and, in some cases, alumni representatives. The senate has the authority and responsibility for formulating general university policies, making decisions on the overall development of the institution, and bringing the concerns and needs of the institution to the appropriate authority.

Board of Trustees. This board exists as a governing body in only a few universities. Its role principally involves the management of funds, the preparation and monitoring of the budget, fund-raising, and the appointment of a treasurer. The composition of the board of trustees varies greatly.

The Rector. The rector is the official who represents the university. In autonomous universities, he is elected by the governing board or by the university council, or even by an electoral procedure in which all members of the university community participate.

In some universities, the election is conducted by direct ballot; in others there is a representative system which may operate initially through the schools and faculties or which may use weighted votes favoring either students or faculty members. In the nonautonomous universities the rector is appointed by the state governor, either directly or from a panel of nominees presented by the university council. A third form of appointment is for the governor to propose a panel, from which the university council selects the rector.

The charters of the universities establish specific requirements for the rector's position. In general, he must be a Mexican, but some regulations require that he be a native Mexican. As for age, thirty to thirty-five years is the usual minimum and the maximum may be up to sixty or seventy-five. All universities insist that the rector have an advanced degree. With few exceptions and with differing details, the charters call for a person who has a distinguished record in his field, who is honorable, and, in some cases, who has taught or carried on research in the university for a stated period of time, up to as long as two years. Also, in some universities the post excludes persons who have held elective office or who are, or have been, ministers or priests in any religious sect.

The terms of office may be three, four, or five years, and occasionally reelection is allowed for one additional term or indefinitely, but the tendency is to prohibit reelection.

The rector is the legal representative of the university and its chief executive officer. He presides over the university council, signs all legal documents in behalf of the institution, and in general oversees the institution's progress and assures the implementation of decisions made by the council or, when there is one, by the board of governors. The rector appoints the secretary general (provost) of the university, and the various administrative officers, and in some universities the rector nominates the deans.

The Deans of the Faculties, Schools, or Institutes. These officials, at their academic level, have duties and responsibilities similar to those of the rector, and are expected to have the same qualifications. Their election is subject to stated procedures.

Advisory Councils (or Academic Boards). Within each faculty or school, there is an administrative/academic council - the names vary - made up of the dean and representatives of the students and faculty members from that school. In some universities, representation is equal; in others all faculty members participate together with a set number of students. The chief function of these groups is to approve those curriculum plans which are to be acted on by the university council. They are also responsible for general academic activities.

Interinstitutional Organization

Universities and institutes of higher education are grouped together in the National Association of Universities and Institutes of Higher Education (ANUIES), an organization formed by these institutions themselves in 1950. The main goals of ANUIES, according to their statutes of 1961 are:

— To study the academic and administrative problems of the national system of higher education in order better to integrate planning with the total system and to suggest to member institutions - and to educational authorities - the adoption of recommendations for the improvement of institutional performance;
— To support actions tending to improve the services assigned to member organizations;
— To encourage the exchange of personnel, information and services among members;
— To study the economic problems of higher education in general and of individual institutions in particular, and to undertake the steps necessary for their solution;
— To promote the development of instruction, research, and cultural diffusion in its member institutions, in accordance with regional needs and within a concept of integrated national planning.

ANUIES, in accord with its charter, carries out its work with full respect for the autonomy of its members. Furthermore, resolutions which are passed in the general assembly of the association are essentially recommendations and suggestions, obligating their members only to the extent that they are ratified by their own governing bodies. The association is comprised of:

— *The general assembly,* made up of the rectors and directors of member institutions, is the ultimate ruling body of the association;
— *The national council* (executive committee) made up of the rectors selected to coordinate the activities of each of the seven university regions into which the statutes of the association have divided the country, plus the rector of the National University, the director general of the Politécnico, and the executive secretary of the association. The coordinating rectors of the seven regions are those of the universities of: Sonora, Nuevo León, San Luis Potosí, Guadalajara, Puebla, Vera Cruz, and Yucatán.
— *The regional councils* are coordinated by the rectors of the previous seven universities;

— *The executive general secretary*, an official elected by the general assembly for a three-year renewable term, is the legal representative of the association.

In December 1975, the institutions of technical education, responsible to the secretary of public education, in addition to membership in ANUIES, established the Council of the National System of Technical Education. The law which created it, defines it as an "agency charged with advising the Ministry of Education on ways to coordinate - within the national education system - the educational policy of the various types of technical education enterprises with the social and economic development of the country." The general purposes of the council are:

— To assist in planning evaluation mechanisms and expansion of the system of technical education;
— To provide consultation on the development of plans and programs of technical education at the postsecondary level;
— To review periodically such plans and programs on a national, regional and local basis and to recommend to the secretary of public education the changes necessary to assure their being carried out;
— To suggest policies and lines of enquiry for scientific and technological research within the sytem;
— To encourage a maximum of cooperation and interchange among the institutions in the system;
— To propose ways of strengthening the ties between national and foreign teaching and research institutions in order to advance technical education;
— To design model educational projects which may contribute to long-range improvement in the academic level of technical education;
— To advise on the organization of scholarship programs, both national and international, in order to produce teachers and researchers for the system;
— To recommend methods of interdisciplinary and interinstitutional cooperation in the development of research programs in areas of common interest;
— To design plans for the expansion of the national system of technical education in high priority areas in accordance with national needs;
— To suggest to member organizations ways of coordinating their activities as they relate to social service;
— To propose the establishment of industries relating to agri-

culture, animal husbandry, and fishing which can relate to the needs of the system and contribute to national development;
— To recommend the publication and distribution of scientific, technical, and cultural works which may be used as texts or reference books in institutions of the system; and
— To do anything else within the law which it deems necessary to the fulfillment of its role.

Objectives

Relation to Social Problems

The university charters and by-laws, without exception, state that the aims of these institutions are: teaching, research, and cultural diffusion. Having thus identified the purposes for which they were created, the universities have fulfilled them according to their individual characteristics and situations; nonetheless, the basic definition suggests the directions which all their actions should take, their social orientation, and their role with respect to the solution of national problems. The governing laws of the universities include statements of function which can be grouped as follows:

— To carry on teaching with an awareness of social responsibility;
— To prepare faculty members and researchers in the scientific and cultural disciplines most directly related to socioeconomic development, both regional and national;
— To educate students so that they may directly benefit and serve in the development of the country in a context of social justice and freedom;
— To study current problems of human coexistence, particularly in Mexico;
— To develop human solidarity;
— To develop in students and graduates a high sense of service and social cohesion;
— To contribute, through education, to development and to social, economic, scientific, technical, and cultural independence;
— To encourage and engage in scientific research, giving priority to those problems which tend to resolve state and national problems;

— To extend the benefits of learning;
— To encourage the application of scientific knowledge in order to improve the standards of living of the people; and
— To make the university a catalyst that contributes to the cultural, economic, and social development of the states and the nation.

These goals established by law have not always been implemented. This fact has led the universities and institutions of higher education to a closer definition of their fundamental objectives. In March 1970 the general assembly of the ANUIES established seven theoretical objectives, four which related to teaching, one to research, another to cultural diffusion, and one relating to the role of higher education in social criticism. The seven theoretical objectives established by the universities and institutions of higher education are:

With respect to teaching
— To encourage the formation of habits and attitudes that are consistent with the development of creativity, capacity for individual learning, critical judgment, discipline and organization, and sense of personal and social responsiblity;
— To so structure productivity, by areas of knowledge, as to assure the achievement of integral development (a mechanistic accommodation to the transient demands for labor is to be avoided in favor of the ample and dynamic satisfaction of the needs for development);
— To provide to the student the most up-to-date and highest quality information, in order to achieve and maintain the autonomous development of the country;
— To offer opportunity for higher education to the highest possible percentage of students, with the variety of levels and fields of study which the realities of the country suggest.

With respect to research
— To become involved in the solution of national problems through research, without any implication of rendering such research strictly utilitarian.

With respect to cultural diffusion
— To contribute to raising the level of technical understanding of the populace through university extension.

With respect to its role as critic
— To participate in groups involved in the scientific analysis of national problems and, through the exercise of its academic freedom, point out errors and propose solutions.

This definition of objectives clearly identifies the tasks of higher education with the solution of national problems. Accomplishing these goals is a matter of seeing to it that the activities of the universities and institutions of higher education are better adapted to the economic, social, and cultural realities of the country.

Access to Higher Education: Social and Economic Demands

Since the 1950s, the number of institutions, schools, and career programs has greatly increased, and each year more new students are enrolled in higher education. In the period between 1970 and 1976, new admissions to higher education increased by 138 percent, as can be seen in Table 8.

TABLE 8

Students Enrolled for the First Time in Institutions of Higher Education, 1970-1976

School Year	Students
1969-1970	68,193
1970-1971	81,256
1971-1972	91,331
1972-1973	110,846
1973-1974	125,731
1974-1975	149,729
1975-1976	162,662

Source: Higher Education in Mexico, 1970-1976, ANUIES, Mexico, 1976.

In 1960, 2.7 percent of the twenty to twenty-four-year old age group was enrolled in higher education; this percentage climbed to 3.7 percent in 1965, in 1970 to 5.4 percent, and in 1975 to 10.4 percent. Such increases are the result of the expansionist policy of the educational system, which is considered crucial to national development.

Obviously, the demand for qualified personnel has grown in recent years, as agricultural and industrial production has increased, and as health, welfare, and cultural services have

become more widespread. But, in general, there has not been any close relationship between these sectors and career training in institutions of higher education, and adequate information about the precise nature of the demand has been lacking. Nonetheless, the increase in the numbers of students in higher education, which in turn has led to added numbers of graduates each year, has demonstrated the national capacity to absorb these graduates into a professional market which has only now barely begun to reach a saturation point in some fields.

Thus, the system of higher education has been open to expansion on the one hand in response to national demand for the training of professionals and, on the other, in response to social demand for admission to higher education. In order to serve both demands, institutions of higher education have maintained already existing programs of study and have created new ones. Access to higher education has also been expanded, gradually creating a situation which, in terms of response to the need for higher education, has come to represent more attention to *social* demand than to *economic* demand.

Those who enter higher education enroll in a specific degree program. The choice of a program reflects the student's own preference as well as the general nature of society. In the first case, it is a matter of familiarity with the subject matter and professional preference; in the second, the influences may be social pressures, professional prestige, and a general perception that education will provide a route to a better economic and social status. In both cases, these are individual decisions which are not necessarily related to national needs. In recent years, the expansion of higher education has reflected the personal demands of applicants more than national needs for qualified human resources.

This explains the saturation of certain professional programs and the reduced numbers of students in others, in spite of the fact that the former suffer from severe unemployment or underemployment and the latter have too few graduates for the opportunities available which are important to national development. Furthermore, this responsiveness of the system of higher education to student preferences is the cause of the proliferation

of schools of administration and accounting, law, economics, medicine, and other high status studies.

Access to higher education clearly shows the system in the position of responding to a demand for admissions which, in the last fifteen or twenty years has been constantly increasing and which doubtless will continue to increase. Enrollment is now increasing at the rate of 18 percent annually and, although there are several kinds of new programs, there is a clearcut concentration on professional studies in the service areas: approximately 30 percent of the student body at the licenciate level is now enrolled in law, economics, accounting, and administration in its various specialties.

The Advancement and Dispersion of Knowledge

Plans and programs of study in higher education are considered the means by which students can prepare for a stated profession. They are created within the collegial groups of schools, faculties, or departments of each institution.

Programs for professional degrees at the licenciate level can be divided into six groups according to type: natural and exact sciences; medical sciences; agricultural and animal husbandry sciences; engineering and technology; social and administrative sciences; and education and humanities. Within each group these programs can be identified by their subject matter or by the nature of the professional activities of their graduates, but each has its own character and program. The functions of higher education are not only to preserve and transmit knowledge, but also to generate new knowledge. However, at the licenciate level, programs are basically designed to fulfill the former objective.

Nevertheless, in the transmission of knowledge, one can make a distinction between those programs which remain the same and those which are modified to take into account new learning in the field. In general, it could be said that both situations are present in all programs, whatever may be their grouping, and that the differences are more to be found between institutions, in accordance with their respective conditions; that is to say, the dispersement of knowledge depends to a large degree on the quality and quantity of faculty, on library and other support

services, and on the capacity of workshops and laboratories.

Indeed, there exists a tendency in favor of teaching-learning which is to a large extent traditional in character, a fostering of a passive attitude on the part of the student, with its resulting effect upon the acquisition of new knowledge and also on the possibility of active involvement in research. Generally speaking, there is no relationship between teaching and research, with the exception of a few recent innovations in a few institutions; teaching predominates and the body of knowledge which is taught tends to be of the theoretical type which considers neither the application nor the utility of knowledge.

Library service is present in all institutions of higher learning, but neither its resources nor the extent or quality of its service has improved in proportion to the increase in enrollment. In this regard, library conditions are a direct reflection of teaching conditions. As for workshops, studios, and laboratories, the extent to which they are used depends on the programs of study offered, on the value assigned to practical work, and on a particular institution's concept of the learning process.

For a long time, the final comprehensive examination, given on the basis of a thesis or research project, was considered to be the demonstration *par excellence* of knowledge acquired. At present, although a thesis remains an optional way to take the final exams, other forms have been accepted as equally valid. This decision was made in view of the fact that theses were not being prepared with the necessary rigor and because for many students they represented an obstacle to getting a degree. In any case, the final examination via the thesis still remains as one way to demonstrate learning acquired by the student. In some institutions, the final exam is waived in favor of the acquisition of a fixed number of upper division courses.

In advanced studies, the relationship between teaching and research is implicit in the programs themselves and is a basic part of such studies. Consequently, at that level, the transmission of knowledge is accomplished with greater depth and breadth, and in some fields there is even some creation of knowledge. Postgraduate studies are conceived of principally as having this objective, and it is there that teachers and researchers are trained.

Even though they have not been extended sufficiently, post-graduate studies have tended in the last ten years toward a notable expansion, and in the last six they have benefited by the creation of a considerable number of scholarships, so that students at the master's and doctor's levels can be prepared in institutions within Mexico as well as abroad. There are also a number of programs designed exclusively for the preparation of faculty members and others ready for specialization at the higher level in the areas of services and production. Studies at the master's degree level are now offered much more widely and in greater diversity than those for the doctorate. These programs are directed toward a special field, and both the teaching personnel and the students are for the most part full-time. Some programs, principally at the level of the Ph.D., include a larger selection of research activities; that is to say, students can fulfill some of the requirements for the doctorate through research activities alone.

FOOTNOTES

1. For the benefit of readers unfamiliar with the terminology of education in Mexico, the following (approximate) equivalencies should be noted:
   – Secondary (or lower secondary) level corresponds to junior high school.
   – "Higher secondary level" refers to the senior high school program which leads to the degree of *bachiller*, refered to as the *bachillerato* or baccalaureate.
   – Preparatory (*preparatoria*) schools are those which award the *bachillerato* and are often located in the universities or closely associated with them.
   – *Licenciatura* (licenciate) is a university degree, more of less the equivalent of the MA or MS.
   – "Postgraduate studies" refer to programs leading to the Ph.D. or similar level degrees, including that of professor, more or less the equivalent of the Ed.D.
2. Jaime Torres Bodet, "Perspectivas de la educacion primaria," *México, 50 años de Revolución*, IV, *La Cultura* (Mexico City: Fundo de Cultura Economica, 1962), p.4.
3. There are in Mexico numerous entities which, although they are government run or managed, still have high levels of autonomy. Included, for example, would be PEMEX, the government petrochemical monopoly, the Federal Commission on Electricity (somewhat analogous to TVA but more comprehensive) and various technical and research institutes.
4. These total 533,202 students. Previously we had cited 564,126. The difference, 30,924 students, is not taken into account here because it represents intensive courses in the higher normal schools and in a few universities, rather than regular programs of study.

2 MANAGEMENT OF HIGHER EDUCATION

Planning

Information System

The scarcity of information on the Mexican system of higher education has made it difficult in many cases to identify specific problems. Even today, it is not possible to find data gathering processes which are adequate to the task. Nonetheless, in recent months sufficient basis has been established to hope that within a short period of time better conditions will prevail in the collection, processing, and utilization of such information.

During the last seventeen years The National Association of Universities and Institutions of Higher Education obtained and compiled information on its member institutions, and it has encouraged its members to establish an office charged with collecting institutional information. As a result of these efforts, we have been able to obtain some data on student enrollments, faculty members, budgets, number of graduates, and student distribution according to academic program and location of the university, and we have been able to bring all this information together at the national level. The data gathering process has been gradually extended to other institutions who do not belong to the association.

It has, however, been necessary to overcome obstacles of various kinds, among them the basic lack of offices or departments committed to the collection and analysis of information and the lack of personnel specialized in data collection. Nevertheless, in the last ten years this situation has improved notably.

At least, the present availability of data makes it possible to identify the principle quantitative aspects of the Mexican system of higher education.

In 1976 an agreement was established between the Office of Planning of the Secretariat of Public Education and The National Association of Universities and Institutions of Higher Education in which general lines of action were established for the collection and processing of information. The agreement also specified the language and terminology which were to be employed in the formulation of data.

National deficiencies in the availability of information about higher education still have to be overcome, and the system which has already been established will have to be improved as will the capacity of the various institutions to collect the data necessary for educational planning and the operation of their institutions.

It is worthwhile pointing out, however, that the lack of sufficient information was for a long time the alibi used to explain the lack of educational planning. Once this problem was overcome, it was possible to begin to carry out planning at the institutional and national level. But as will be seen in the following section, another type of problem has hindered the application of the methods which have been proposed in the educational system.

Accomplishments and Limits of Planning

Educational planning at all levels of instruction was initiated in Mexico by the federal government during the second half of the 1960s. Earlier, the Eleven Year Plan had been approved, but it referred exclusively to the expansion and improvement of primary education. In July, 1965 the secretary of public education created the National Commission for Integrated Planning of Education. Its work, dedicated to the study and analysis of all levels of the national system of education, began with a quantitative study: the accumulation of statistical data, analysis of trends, prediction of certain educational services which would be required by the expansion of the systems up to the year 1980, and a calculation of the human and financial resources which would be required in order to satisfy the needs of that expansion. A sec-

ond study examined the qualitative aspects of education to determine the direction of educational policy, the contents and methods of education in accordance with demands which had been foreseen, as well as the regulation of the development of the education. Both of these studies were completed in 1966.

A third study reviewed results and evaluated the material which had been provided by the two previous studies and defined a course of action. The general report from this study commission was presented in 1968.

In the final report five fundamental criteria were presented and endorsed:[1]

> — The right of children and young people to education and to cultural formation and upgrading at all levels, including extension of training prior to entering the labor market and an improvement in training services for all those who work;
> — In accordance with regional studies, various goals of expansion were determined, taking into consideration the fact that social demands for education have a close relationship to levels of admission and the stage of development, and the economic demand for personnel at the higher levels is related to the extension of the productive capacity of the economy and this, in turn, the result of technological advancement;
> — Support for education in its scientific, technological, economic, and administrative aspects;
> — The determination of policies which coordinate and direct scientific and technological development as a base for educational policy directed toward the overall improvement of the country;
> — A restructuring of the national educational system at its intermediate and higher levels so that the student might acquire learning which would permit him to continue advanced studies and thus to qualify for occupations at a higher level.

In May, 1969, the National University of Mexico and The National Association of Universities and Institutions of Higher Education organized a seminar on university planning in which various aspects of the task were explored. Planning - as defined in the first session of the seminar - is "the permanent process of foresight which enables decision makers to make informed decisions and to select among alternatives those actions which are the most rational."[2] Development, on the other hand, is perceived in its integrated form, in its economic, social, political, and

cultural aspects. Fundamental points concerning the tasks of planning were defined in several papers. The relationship between planning and economic development was explored, as well as the social implications and the relationship to the efficiency of the educational system, including information processes and various other matters.

In 1970 the association, with the support of the National University of Mexico, prepared a preliminary analysis on the system of higher education. This work succeeded in concentrating and systematizing various kinds of information and in presenting the predominant characteristics of higher education in the country, including projections of its growth and specific proposals for short-term planning.

In 1971 the secretary of public education established the Coordinating Commission for Education Reform, which incorporated a large group of institutions and individuals including faculty members and students. The Commission was designed to draw upon all sectors of society. The final document produced by the commission was "Contributions to the Study of Problems in Education," which contains evaluations and recommendations on all levels of education: definitions and principles of educational reform; sections relating to administration; to educators themselves, their training and interrelationships; to nonformal education, and to financial resources for operations.[3]

The section on higher education in the report analyzed the general plight of studies. Financial and academic problems were discussed, as well as physical requirements and personnel needs, a general concept for reform of higher education and the bases and recommendations for its fulfillment. As the authors of this report pointed out:[4]

> It is not enough, in the process of planning higher education, simply to focus on the process of planning, its quantification resulting from population growth, and its financial consequences in terms of needs for faculty members, classrooms, and laboratories. It is also urgent to confront the qualitative problems as well, and the need for a reform suitable to the period in which we live. In this respect, one of the primary problems which must be confronted is the apparent discrepancy between the acceleration of growth in the number of students and the efficiency of the educa-

tional process, including the overcrowding of classrooms and the lowering of academic levels which are their consequence. We must imaginatively examine, therefore, systems of teaching and methods of work which will allow us to overcome the limitations which tradition imposes on our academic labors.

Furthermore, and as a part of their participation in programs of educational reform, institutions of higher education through the national association have arrived at agreements and recommendations on problems of institutional structure, plans and programs of study, curricular organization, expansion of services, and the establishment of models for institutional growth at the national level. These agreements have been reached in general meetings of rectors and directors of these organizations who have in turn taken them back to their institutions for implementation.[5]

In this long process of identifying problems in the system of higher education, the quantification of its growth, and the evaluation of its operational conditions, certain conditions and circumstances emerge as formative.

First, the increase in the social demand for education after the 1950s became apparent to authorities and educators, who realized that, in a relatively short period of time, the system of higher education would find itself subject to growth, with its inevitable repercussions, on the system's resources. Thus, the first planning efforts were formulated primarily to find out what in fact were the requirements imposed by this growth and to prepare the system to cope with them.

Second, the vast increase in other problems related to the educational process necessitated a review of the educational system's internal structure. Changes on social scene and the impact these had on the traditional educational system made it necessary to consider not only the predictions for growth in educational services but also the content of the subject matter being taught and its impact on an historical-social context much more complex than that of the immediate past. Therefore, educational reform in Mexico was directed more toward the individuals who make up the system and participate in it as educators and as students than to quantitative aspects of education.

These efforts at planning higher education must be considered as *suggestions*, since the largest proportion of the institutions who offer this level of education are autonomous, which is to say that the proposals of the commissions established by the federal government and the agreements made amongst the members of the National Association of Universities and Institutions of Higher Learning do not have any obligatory force with respect to the autonomous universities.

To the extent that the autonomous institutions fail to put these agreements into practice, they are annulled and limited to being simply words without real operational value. Thus, planning and reform do not always correspond to reality, and, generally speaking, unplanned growth continues in the system modified only in those few institutions which adopt suggested reforms and changes. Overall, planning and programs of reform have had a relatively small effect on higher education in Mexico since reforms are merely proposed by voluntary institutions and are not followed by direct action in the institutions themselves.

Another equally important aspect of planning in higher education concerns the larger frame of reference in which it ought to be placed - namely, national planning with its attendant social and economic goals. The difficulty here is not that Mexico lacks a national plan of development which has the capacity for establishing adequate educational planning; rather, the problem lies in the weakness of an educational planning operation which, having been generated far from the decision-making groups, does not have the force and the support necessary at the national level, and consequently, does not have the economic resources which are necessary for implementing the proposed plans. The absence of funds and the lack of economic foresight seriously limits the impact of the planning process, reducing it to a theory unrelated to the operational capacity of the institutions themselves.

The Creation of New Institutions

In 1973 two autonomous public universities were created: Ciudad Juárez in the state of Chihuahua and the Metropolitan University in the federal district of Mexico City. The first was

established at the request of the community of Ciudad Juárez, a city of 600,000, which had one regional technological institute and a private agricultural school as well as the autonomous University of Chihuahua in the capital of the state 242 kilometers away. The autonomous Metropolitan University was created at the request of the National Association of Universities and Institutions of Higher Education in order to extend the educational capacity of the area which had been basically served by the two great national institutions - the National University and the Polytechnic Institute. On the model of the autonomous university of Ciudad Juárez similar institutions were established in Chiapas and in Baja California, both of them in 1975; and in 1976 the autonomous University of Tlaxcala was founded.

Since 1970 thirty regional technological institutes - seventeen dedicated to agriculture and animal husbandry and one to fishing - were established outside the federal district and distributed somewhat unequally over the country. Private institutions have also multiplied in recent years, principally in the federal district but in all they have emerged in only fourteen states.[6]

In the case of the autonomous public universities, all of which predate 1970 with the exception of the five mentioned earlier, the expansion of educational services has been managed through increasing already existing institutions; that is to say, by increasing the capacity for enrollments and for varied career programs already established or by creating new programs. In one or two cases new institutions have been created following the traditional model. Nonetheless, in several of the recently established public autonomous universities, some innovations have been introduced.

In general, the new institutions were established with very little consideration given to the educational conditions already existing in the locality or region - such as type of educational programs already available, the socioeconomic characteristics of the area, the market for professional labor and requirements of the manufacturing and service industries. In some cases the students' preference for high-status programs has led the university to offer studies which had not originally been considered in

the planning of the institution, thereby duplicating study programs which already existed in that region.

Considering that higher education is offered in three different types of institutions - the public autonomous state institutions, the public federal institutions, and the private institutions - the establishment of new institutions or the extension of already existing institutions needs to be coordinated, taking into account the socioeconomic conditions of the region. Otherwise they will continue to react to immediate short-term emergencies and obstruct the decisions arrived at through comprehensive long-range planning.

Coordination of Planning

The problems of coordinating planning are apparent in our earlier sections; we will summarize them here as follows:

- Insufficient information on the system of higher education and a lack of correlation between the information which is gathered and that which is needed for planning efforts;
- The fact that most planning in higher education is based on recommendations conceived at the national level and, consequently, has very little reference to the actual circumstances of individual institutions;
- A lack of planning within the institutions of higher education themselves;
- The absence of economic planning to support the effective operation of proposed recommendations;
- The fact that educational planning is not carried out by those who actually have the decision-making power. At the institutional level, the problem is similar: there are not only poor communications for planning purposes between authorities and technical groups who are members of the university community itself - professors and students - but decision making is too frequently separated from the planning process.
- Duplication of education services in response to students' demand for socially desirable study programs;
- The creation of new institutions of higher education without regard for the fact that local educational resources might already be sufficient, and without determining the specific requirements of the area for professionals and specialists.

In response to these problems in December, 1976 the Secretariat of Public Education created a new organization - the Of-

fice of General Coordination of Higher Education, Science, and Technology - whose principal objective is to define ways in which higher education can be encouraged and directed, in order to improve its capacity for instruction and research and its internal efficiency, as well as to improve the efficiency of its participation in economic, social, technological, and cultural development. Basically, the new organization will have two functions, one of coordination and the other of development and service. Among its coordinating functions are:

- The establishment of mechanisms to direct and encourage the activities of higher education and research;
- Participation in the development of legal instruments which will regulate the system;
- Coordinating the technical institutions which are dependent on the secretary of education with the other institutions of higher education in the country.

The primary functions of development and service which the new office will provide are:

- Diversification in the mechanisms of financing higher education and scientific research;
- The channeling of federal government subsidies to institutions of higher education and research;
- Efforts to support the integration of all the programs in the system;
- Encouraging academic excellence within the system;
- The promotion of scientific research in institutions of the system;
- Encouraging support services for research and teaching;
- The improvement of guidance services related to higher education and research;
- Promoting dispersal of scientific knowledge;
- Encouraging closer relationships between higher education and research and the production and service sectors of the economy;
- Promoting cooperation by other national organizations related to research and higher education.

To accomplish these functions, the Office of the General Coordination of Higher Education, Science, and Technology will have the cooperation of various consulting committees representing institutions and individuals involved in higher education.[7]

Administration

Preparation of Budgets and Allocation of Funds

In Chapter 2 we discussed the economic resources of universities and institutions of higher education.[8] Here we will consider the internal procedures which exist to handle the distribution of institutional funds and the authorization of budgets.

In the autonomous public universities and the state universities, the university council is authorized to prepare the annual budget. Drawing up a budget implies on the one hand, allocating funds to the different activities within the institution and assigning these activities to the faculties, schools, centers, institutes, and other operating units of the university; on the other hand, attention must be given to requirements resulting from the outside activities of the university and the expansion or establishment of new programs. In both cases, it is necessary to identify budget items and the corresponding quantities involved and this, in turn, suggests that activities and plans be programmed with respect to the growth of each institution.

In practice, the participation by universities, centers, or institutes in determining the budget is frequently limited to planning related to growth in the respective unit and its consequent repercussions on the required number of professors, administrative personnel, physical facilities, and other educational services. The rector of the university brings together this information, discusses it with the directors of the schools, centers, or institutes and develops a projected budget to present to the university council for its approval.

These budgets, which depend on allocations from the public sector, are negotiated with the federal government or with the governments of the states after approval by the educational institution although infrequently it may occur prior to that approval. Until recently neither the federal government nor the governments of the states had any systemized procedure for evaluating the budget requests which would enable themto analyze and relate these requests to the actual operating conditions of the institution.

The amount authorized may be the same as that requested, in which case the budget is covered in its entirety by assigned

funds and the annual expenditure is guaranteed; on the other hand, if the full amount is not approved, it is difficult for the institution to reduce its current expenses. This has the effect of generating a budgetary deficit which may require a new negotiation on the part of the university with the federal or state government.

This procedure reflects the conditions under which institutions of higher education work in carrying out their activities and their actual potential to program both in the short and medium term. The process is closely related with the institution's capacity to fulfill the objectives of the system of higher education efficiently. With respect to the initial stage of the process, the plans of faculties, schools, or institutes are not based on previous studies (the exceptions do not invalidate the generalization), but reflect the demands of increased enrollment rather than the needs of planned development. In general, integration of these planning efforts at the institutional level only involves those increases which are considered necessary for the university to handle immediate needs for expansion which are present and observable at the beginning of the academic year. This explains why the substantial increments in public expenditures for higher education in recent years have only permitted the enrollment of more students in the system, without its being possible to incorporate substantial changes in the content and structure of education. In addition, the problem has been aggravated recently by the frequency with which requests for increases in salaries have been presented both for academic and administrative personnel, among other reasons because of the inflation of recent years. Accommodating these requests frequently results in making the original budget estimates obsolete and also strains the institution's economic capacity.

Other institutions of higher education have the same problems as do the autonomous public universities and the state universities but their's are problems of simple budgetary deficits. In both types of institutions it would be possible to identify some that have developed a capacity for planning. Planning capacity may also be found at the level of faculties, schools, or institutes.

A study carried out on the growth and development of higher education, involving nine universities and interviews with rectors, directors, and professors, concluded that:[9]

> To judge by the general nature of the previous responses (thirty-five agreeing with the budgetary system now in effect and twenty-five opposed to it) the apparent lack of interest in this subject seems to come out of a conviction that the budget is nothing more than an administrative necessity and not a process of communication nor a potential instrument for directing resources toward a series of both medium and long-range goals.

This conclusion shows the absence of any awareness of the relationship between administration as an operational instrument, resources of all kinds (human, economic, material) with which an institution is endowed and its regular activities. This lack of connection must be considered both as it affects the objectives of higher education and the individual objectives of each institution according to its own legal organization. The study referred to was begun in 1967 and concluded in 1970. In spite of the years which have gone by since, the conclusion is still valid today.

Student Admissions

To be admitted to an institution of higher education requires having completed preparatory studies. Both the preparatory and higher levels are offered by the universities. There is no standard procedure for the whole system of higher education with relation to student admissions and different procedures may be in effect in different schools of the same institution.

In the majority of cases, students who attend the same institution for both the preparatory and higher studies continue from one to the other without any need to satisfy special requirements for admission. This is a result of a drawn-out controversy in which the students have argued that the satisfactory completion of a lower educational cycle, in this case the preparatory cycle, grants the right to continue on to the cycle immediately above it, particularly if both cycles are in the same institution. The guarantee of advancement to the higher level (right from the beginning of the student's enrollment in preparatory school) with

the sole requisite of terminating studies satisfactorily is an important factor behind the growth in student enrollment.

Another selection procedure consists of setting a minimum grade point average; students who were below this average in their preparatory studies are not admitted to study at the institutions.

In just over ten years, enrollment in higher education has increased by 286 percent, and the number of applications continues to grow each year. Consequently, most institutions' admissions procedures are inadequate and new methods or reforms are urgently needed.

Faculty Recruitment

Requests for new faculty members appear annually in the budgets of all institutions of higher education. Generally, the faculty has comprised persons who are dedicated to their profession and agree to give one or two courses in response to a job offer from a school or a faculty. This sytem has prevailed for many years; recently, however, many institutions have hired faculty on a full-time or half-time basis. This approach was developed in response to the increase in teaching loads and because the institution wanted assurance that its academic personnel were completely dedicated to teaching and research. In the latter case, the internal rules of the institution expressly established these categories, setting forth the specific obligations of the professors in relationship to the number of hours of teaching each week and other kinds of work, such as student advising.

As long as faculty workloads did not significantly increase from one year to the next, it was possible to maintain the procedure outlined earlier, but various factors have significantly modified the conditions under which faculty members are hired. Before going on to those factors, it is important to point out that, with the exception of a very small number of institutions, there are no procedures specifically designed for the recruitment of faculty, and consequently a wide variety of practices exist, all the way from directors and chiefs of departments inviting friends to become members of the faculty to selection on the basis of individual applications.

Due to the increase in student enrollments, the institutions were faced with increasing shortages of faculty and soon found that they were obliged to hire teachers who met only the most minimal requirements. This phenomenon was shortly thereafter followed by an increase in the number of graduates who expected to be included on the teaching faculty of the institutions. The greater the need for new faculty members, the greater the possibility of including persons who had only recently graduated from institutions of education. On the other hand, those who entered into teaching from another profession obviously needed some opportunity to acquire teaching experience, but they, at least, had some work experience. In either case, neither recent graduates nor persons from other professions had preparation for teaching.

This problem still existed at the end of the 1960s and necessitated the creation of training programs designed to prepare college teachers and improve the capacity of those who were already teaching. In 1971 a National Program of Preparation of University Professors was established and placed under the auspices of the National Association of Universities and Institutions of Higher Education. A program of this nature had to take into account the academic status of faculty members who were teaching, but also - and perhaps with priority - aspects related to teaching; as a result their attention was focused on: scholarships for postgraduate studies; courses, workshops, and seminars on teaching techniques; and the production of teaching materials.

In a very short time it became evident that the long-run efficiency of these programs lay in having their activities accepted by the institutions themselves. In this sense, the program has succeeded in establishing centers or departments specifically dedicated to faculty preparation and, furthermore, other possibilities of support for teaching have emerged, principally in scholarships for postgraduate study.

In its brief period of operation, the National Program for the Training of University Professors has been able to meet some of the needs for teaching personnel at the higher level. More importantly, it has created an awareness of the need to extend these activities, and it has encouraged teaching personnel to

specialize in needed fields.

However, the problem is not yet solved. Increases in the number of professors of higher education have created a new problem of very large dimensions: most of the teaching staff is working on a part-time basis. This factor, coupled with the realization that teacher training programs needed to be improved, caused the National Assocation of Universities to design an open course for professors, set up to improve their teaching without necessarily requiring them to abandon their regular work. The entire course consisted of four parts: language and communication; teaching methodologies; social aspects of education; and interdisciplinary studies.

The effort in recent years has been oriented more toward improving the teaching practices of faculty members. It has not succeeded in establishing any general mechanism for those who are interested in entering the teaching profession, to prepare or train them prior to the initiation of their activities as teachers. In any case, there are indications that this situation will improve in the future. The problem will fundamentally be to find the formulas required for an educational system in a period of full expansion with a corps of faculty members which inevitably is bound to expand.

Development and Changes in Planning Programs of Study

Teaching is carried on in accordance with plans of study proposed by the academic committees or technical councils of the schools and faculties. Programs for each course are determined by groups of faculty members or by individual professors. These programs establish the content of the courses, including the material to be covered and workshops or practical learning experiences, which are intended to prepare the students for a professional career. In the whole system there are now more than 200 academic programs with a marked diversification in every area of study. The principal groupings are: sixty engineering programs; thirty-three programs in humanities, art, and education; thirty-two in social sciences and administration; and twelve in chemistry.

Changes in curriculum are the result of many different factors which may or may not be related to the conception and design of the course of studies, especially in areas which have recently been introduced. In general, experienced teachers tend to avoid introducing modifications. It is also commonplace for a plan of studies to be set up with excessive academic requirements; this leads, in a short time, to a reevaluation of the general composition of the studies for a given career. A new administration at the level of school or faculty will initiate a new program, revising the plan of studies and proposing changes in them. At times, the change in study plans occurs without there having been any opportunity to evaluate the previous plans. At the opposite end of the spectrum, there are very traditional degree programs which practically never change their plans of study, for example, the law program.

On many occasions, curricular changes have been responsive to trends which impose certain criteria for the study of a given area. Changes have also been made in response to recommendations coming from the schools or faculties, notably, during recent years, those of medicine and engineering. The National Association of Universities and Institutes of Higher Education has also recommended curriculum changes dealing with the length of courses of study and the establishment of a system of academic credits (1971). The association hoped at that time to reduce five-year professional study programs and to give more flexibility to planning through the evaluation of courses in terms of academic credit units. However, the application of these recommendations was not universal, and five-year programs which do not make use of the academic credit system still exist; in fact, some new ones have been created.

In practice there have been important changes in professional training, in part because the sheer amount of knowledge it is necessary to assimilate has increased or as a result of more indirect changes in society. The traditional liberal professions have in many cases ceased being oriented toward the individual student and have become mass processes or systems. This has occurred both in the public and private sector. Nonetheless, it appears that these phenomena have not succeeded in influencing

the curriculum, it spite of their being intimately related to it and to the contents of education.

Nevertheless, some changes have occurred. Engineering programs have perhaps undergone the most curricular changes, as a result of changes in the profession and increased specialization. On the other hand, medicine may be moving in the opposite direction - back to general rather than specialized training, with an emphasis on preventative medicine. However, this type of medical training requires hospital installations which unfortunately are already overloaded with personnel and do not have the capacity to admit a larger number of interns. In spite of all this, medical schools presently continue to operate with traditional curricula, and they continue to have the highest social prestige.

In new institutions "core courses" have been established. They consist of integrated general studies which permit admission to a specialization or even into a completely different area: they make it possible to infuse advanced studies with an interdisciplinary concept. In addition to providing greater academic flexibility while the student is undergoing basic general training, it is hoped that the core course program will increase the students' interest in programs which, currently, are in scarce demand. In any case, admissions continue to be responsive to the careers which are most sought after at this time.

The Operation of the System

Institutional Coordination

The first problem related to coordination of the system of higher education lies in the diversity of institutions of which the system is comprised. The "system" is composed of various subsystems, those of the regional technical universities, and those of the private institutions. (Obviously there are still other institutions which cannot be included in these groupings.) Basically, the coordination of the system involves the following aspects.

Educational Services. Here the primary problem concerns establishing equivalencies of studies from one institution to another for students who change either their institution or their

home or who decide to continue their studies at the same level in another institution or to begin studies at a higher educational level.

Areas of Specialization. Creating new institutions and programs of study so that there will not be too many schools with the same specialty in a given region. Here, coordination must take into account the socioeconomic characteristics of the region and its needs.

Interinstitutional Relationships. The interchange of teaching, curricular, and other kinds of experiences among the institutions could encourage teachers to improve the quality of their teaching, as well as facilitate institutional and curriculum reforms.

Faculty Training. The improvement of teaching through programs of faculty training could be effected with more efficiency if institutions with the largest resources made their facilities available to those institutions which lacked sufficient resources. This type of collaboration could also encourage the attainment of higher levels of academic excellence in the whole system.

Information Exchange. The establishment of models for the organization and exchange of information would facilitate better understanding of educational services and, through this, lead to the identification and solution of problems within the institution.

Grading Systems. The computation of academic credits and the type of examinations required of students should be coordinated in order to facilitate more accurate evaluation of both the students and the system.

Admissions Systems and Standards. The establishment of general procedures for admission to higher levels of study would make it possible to better identify the academic status of those aspiring to enter the university and the academic levels at which the institutions operate.

Accreditation. This procedure established by law to validate studies offered by private institutions is under the authority of the secretary of public education, the state governors, and the public universities. It would allow regional characteristics and national needs to be given greater consideration.

The system of higher education already has at its disposal adequate mechanisms to make some progress in these areas, but in general it still lacks coordinating mechanisms. Consequently, educational services throughout the system vary in form and content. They also lack an adequate communications system, particularly with respect to those institutions which are members of different subsystems.

The National Association of Universities and Institutions of Higher Education, one of whose functions involves coordination of its members, has succeeded in establishing lines of agreement on some of these points. Indeed, it has carried out, even though only partially, programs which have resulted in a certain amount of standardization in academic affairs, as in equivalency of studies and in the collection of statistical information. However, the association has not been able to establish a broader basis for the coordination of this system.

Recently, proposed legislation on higher education has begun to draw the attention of authorities, directors of the universities, and, in general, those who are involved with higher education. The legislation is based on section XXV of Article 73 of the Mexican Constitution. The new law would establish the juridical basis for coordination of the system through the integration and combination of its various elements.

At the present time, the Office of General Coordination of Higher Education, Science and Technology of the Secretariat of Public Education has responsibility for the coordination of the entire system.

Centralization and Decentralization of Services

Of the 208 institutions of higher education which existed in the country in 1976, 46 are located in the federal district in the metropolitan zone and 162 in the rest of the country. Student enrollment in higher education is distributed as follows: 251,147 are enrolled in the federal district; 312,979 are enrolled in institutions located in the rest of the country. Of the latter, 117,897 are in the states of Jalisco and Nuevo León; thus, three federal entities have a total of 369,044 students, 65 percent of the total.

This centralization of educational services is the result of the economic and social circumstances which have characterized the country and which in turn are reflected in many aspects of national life. It is enough to cite the case of Mexico City, in which population, services, and opportunities for employment and economic resources are all concentrated.

In relation to academic activities, the centralization of higher education has had a significant impact. There are notable differences in the quality of educational services that various institutions offer. This translates into disadvantages for those who do not find themselves near the center. Institutions with the highest level of educational development are usually those with the largest per capita income and higher standards of living.

As a consequence of the former, educational institutions in the center become models. Their plans and programs are then copied elsewhere in the country, thereby fostering dependency in academic affairs. This limits the possibilities for local action and prevents educational activities from being creatively adapted to local needs. As a result, the curriculum and organization of the system stagnates.

Although it is not possible nor even desirable that all types of academic programs be offered in all regions of the country, there is a tendency to introduce low-cost academic programs in areas with limited educational resources. These programs are usually not related to local and regional needs and to the service sector of the regional economy.

Students migrate from places with limited educational opportunities to those which offer greater opportunities. Those who leave rarely return to their place of origin, thereby contributing to the impoverishment which characterizes many regions of the country. The concentration of higher educational services is one of the most important causes of this unfortunate situation.[10] This is one of the most negative by-products which result from the centralization of higher education. Thus, centralization in higher education is not only a quantitative problem, which waters down institutions as a result of the great volume of student enrollment, but it also affects the quality of education as well as economic, social, and cultural aspects of national life.

The problem of the centralization of educational services is complex. If indeed the problem of migration and impoverishment of certain regions of the country can be traced to centralization it, in turn, exacerbates these problems. That is to say, it is provoked by the existence of great polar differences in economic and industrial development which tend to place the greatest opportunities for work and better economic conditions in a few urban centers. Education by itself is not capable of changing the socioeconomic conditions of a society; furthermore, it is influenced to a great extent by such conditions. If one considers the problem of higher education in terms of national development, one must necessarily face the relationship which the latter has to higher education. As Horacio Flores de la Peña has commented:[11]

> In the earliest stages of development the influence of higher education should not be overevaluated. It should be sufficient to remember that economic history does not record the case of a single country which educated first and developed later or which created its own technology without being pressed by the needs of economic development. Only in intermediate states of development does the inadequate supply of technicians and personnel qualified at the higher level exercise a major influence because it adversely affects the capacity of the country to introduce a modern technology, to carry on research in its own way, and to attain constant increments in the productivity of labor.

We have identified the capacity for reform as the major imperative facing institutions of higher education in Mexico today. Acquiring this capacity may well determine whether Mexico can achieve not only greater efficiency in educational services but also improved coordination. Limited institutional development, academic dependency, and conditions which are characteristic of traditional structures are obstacles to this goal.

Problems of Autonomy

The concept of autonomy is closely related to the function of the state and the academy. The former authorizes autonomy by passing laws and the latter exercises it. Autonomy is established by the state as recognition of the necessity for freedom and

self-government within the area of higher education and research; by authorizing autonomy the state takes itself out of higher education and turns it over to the universities, so that they may carry on for themselves in accordance with their own ordinances. The state authorizes economic resources which the universities use in carrying out their educational activities. Institutional autonomy concedes rights - academic freedom, self-government, administration of economic resources - and it imposes obligations; the latter are focused on the efficient accomplishment of the objectives of the university. Responsibility in fulfilling these obligations falls on everyone within the academic community: authorities, faculty members, and students.

The problems of autonomy have always been looked at in a university-state context. The latter may direct, support, or encourage actions which are destined to wound or destroy institutional life, with a consequent diminishment of academic liberties, or it may intervene, either directly or indirectly, in matters which lie within the strict competency of the university. Problems of this type depend on various circumstances which may exist either within the universities or in society at large.

In the history of institutions of higher education, simultaneously with the economic and social progress of the country, new situations have emerged which, because of their own characteristics, have modified the conception of autonomy. The complexity of the problems which the universities have confronted in recent years has involved conflicts of a political nature or those having their origin in quite different areas. Some individuals and groups who are not acting in the best interests of higher education criticize the university system while, at the same time, they obstruct the operation of the university, interrupting its activities and challenging institutional order. On occasion these conflicts erupt with great violence and they not only interrupt teaching and research activities but they often result in damage to the physical facilities.

In the face of these problems, the rectors and directors of universities and institutions of higher education endorsed, in 1972, a document defining the fundamental aspects of autonomy

and establishing principles on the relationship between the university, society, and autonomy. This document affirmed the following:[12]

> All institutions of higher education in the republic are in the process of undertaking reforms with the intent to carry out fully the functions which are assigned to them and to take advantage of the increasing resources which the nation is placing in their hands.
>
> This reform is essential to the continued existence of the institutions. It will be continued even though it may involve conflict with those who oppose rational change. We are convinced that the social evolution of the nation will be strengthened as a result of this reform.
>
> University autonomy is absolutely necessary for the accomplishment of the ends of higher education. Even in those institutions in which autonomy does not form a part of the legal structure, we consider academic independence and the freedom of teachers and researchers which sustains it to be inviolable.
>
> Since reason is the basis for moral authority in educational institutions, and the justification of its very existence, we condemn all procedures which lead to interrupting the task of education, research, and the spread of culture in a climate of freedom.
>
> We condemn violence in all its forms because its intent is to suppress the freedom of our educational centers to the detriment of its social image, and we condemn provocations and aggressions from within or from without the educational communities. We consider that any kind of repression, whether it comes from an individual, a group, or an institution, whether it has its origin in the heart of the academic community or outside of it, or whether it may acquire the character of economic or political pressure or of physical violence, leaves the field open to those who oppose the sovereign development of the country.
>
> The law ensures the existence of conditions under which the nation can progress. We urge the educational community to respect the law. This should not be translated into the loss of our civil rights. To exercise one's right to ask questions and to criticize society and its institutions is characteristic of an academic community. This duty has only one limitation: that mutual respect prevail.

On the occasion of the 1972 disturbances which motivated this declaration, the President of the Republic - in a public speech which was attended by representatives of the universities, intellectuals, and artists of the country - proposed that

autonomy be constitutionally guaranteed to protect and assure with a legal disposition at the highest level the tasks of teaching and research in the universities. The presidential proposal produced reactions both for and against, the latter for the most part within the university communities, a fact which finally motivated the abandonment of the project.

University Unionism

In the last five years, in the majority of the universities of the country a union movement has developed, supported by professors and workers in the universities and directed toward the defense of their labor rights and the establishment of contractual conditions between these organizations and the educational institutions.

University unions have existed in the country for a number of years. The first was established in 1960 at the University of Coahuila and the second at the University of Nuevo León in 1963. Nonetheless, it has only been during the last ten years that unions have spread throughout the system. Precarious economic conditions and the absence of adequate rules and regulations to protect the labor rights of professors and workers have encouraged the spread of these organizations, whose demands have reached stronger levels as the inflation which has effected the national economy during these last years has become more acute.

Labor legislation is based on Article 123 of the Mexican Constitution. The terms of this article can be divided into two main sections: section A concerns the regulation of labor relations "between workers, artisans, domestic employees and in general all those contracted for labor"; section B concerns "labor relations between both the federal and state government and government workers. Article 123 sustains the right to strike for all workers, including those covered under section A and section B, but it establishes a very important distinction: in the first case, the strike will be legal when it is aimed at achieving "a better equilibrium between the rights of workers and the rights of capital." In the case of section B, workers will be able to exercise the right to strike "when in a general and systematic way the rights which this article concedes to them have been violated."

In practice, there are university unions registered in accordance with section A, but there are also some based on the conditions which regulate relationships of government workers. In other cases unions have not been registered at all, perhaps because they have refused to ask for registration or because the registration which was requested has been denied. Moreover, there are universities with a union which groups professors and workers together, others with unions for each one of these groups, and there are even cases in which more than two unions exist as a result of union splits.

Conflict has arisen, not in relation to the legitimacy of labor rights or of the economic factors or social factors which have been demanded - those being essentially recognized - but on the basis of the legitimacy of the strike itself. Unsatisfied demands, whether partial or total, regarding the signing of collective contracts, increase in salaries, or other financial matters have frequently led to the interruption of all the activities of a university. This situation has adversely affected teaching and research in the university, which have been suspended for long periods. Furthermore, as has already been explained,[13] these petitions regularly strain the economic capacity of institutions, which have been obliged to renegotiate their financial arrangements with the federal or state government.

Such problems have brought to light legislative deficiencies in the labor relations between institutions of higher education and the professors and administrative personnel. In August, 1976, the rector of the National University took to the President of the Republic a proposal for an amendment to Article 123 of the Constitution, a section designed especially to regulate these types of labor relations. The principal characteristics of the proposed legislation, which would affect all universities and institutions of higher education except those directly dependent on national or state government, are:

- The right of academic and administrative personnel to organize themselves in unions and labor associations is recognized within the norms of academic freedom and freedom of research and in accordance with the aims of the university.
- Unions or associations of academic personnel will be separate from unions or associations of administrative personnel. Unions

will have the right to strike only when their labor rights are violated in a systematic, general, and repeated way.
— The university council and the corresponding academic organization will establish all regulations which are related to questions of an academic character, including the admission, advancement, and status of academic personnel.
— Working conditions for administrative personnel will be established in one collective contract and those of academic personnel in a different agreement.
— The right of free access to university and institution facilities will not be limited nor shall forcible exclusion of any type of personnel be established.

This proposal was supported by some and rejected by others. Those in favor of the proposal argued that this legislation would secure respect for labor rights and guarantee respect for academic and research functions without interference to those rights. They also argued that it was not legitimate to guarantee labor rights if that resulted in a reduction of academic functions or, on the other hand, that it is not legitimate to attempt to protect academic functions without recognizing labor rights. Those who opposed the proposal claimed that the present problems of the university have not been caused by the unions but by those responsible for higher education, and that the proposal did not take into account the realities which characterize the actions of social groups within the universities. They also argued that the project was antilabor and antiuniversity and that legislation already in existence (section A of Article 123) was applicable to labor relations in the universities. Opinions pro and con were expressed in public hearings for a period of two months and legal, social, and historical arguments presented.

Basically the problem of university unionism is neither limited to situations involving labor relations nor can it be analyzed exclusively from a legal point of view. The acts of these groups and their directors, for the most part, can be identified with the so-called "independent unionism" movement and they take place within a sociopolitical context which obviously goes far beyond the orbit of the universities of higher education.

Very recently the workers union and the academic personnel union of the National University have joined together to form a

single union. The legitimacy of unions, and union strikes, continues to pose problems. Definitions of legal, social, and institutional rights, definitions capable of bridging the complexities of the diverse elements which are involved, are urgently needed.

FOOTNOTES

1. A further development on these five criteria and other aspects related to the report of the National Commission of Integrated Planning of Education can be found in: Oscar Méndes Nápoles, "Educational Planning in Mexico," *University Planning in Mexico* (Mexico City: UNAM, 1940), pp. 49-50.
2. Fernando Solana, "Educational Reform and University Planning," *University Planning in Mexico*, various authors (Mexico City: UNAM, 1970), p.9.
3. *Coordinating Commission for Educational Reform: Contributions to the Study of Problems in Mexico*, 6 Volumes, Mexico City, 1971.
4. *Ibid.*, Volume I, p. 32.
5. The agreements reached by the general assemblies of the National Association of Universities and Institutions of Higher Education (1971-1975) are collected in a document entitled "Declaration of Querétero." See the *Review of Higher Education*, Vol. 4, No. 2 (April-June 1975), pp. 40-60.
6. Baja California Norte, Chihuahua, Coahuila, Guanajuato, Nuevo León, Estado de México, Michoacán, Oaxaca, Puebla, Morelos, San Luis Potosí, Tamaulipas, Vera Cruz.
7. This definition of objectives and enumeration of functions comes from the official document entitled "General Coordination of Higher Education, Science and Technology."
8. See Chapter 2.
9. Richard G. King, Alfonso Rangel Guerra, *et al.*, *Nine Mexican Universities: A Study of Their Growth and Development* (Mexico City: National Association of Universities and Institutes of Higher Education, 1972), p. 66.
10. For the presentation of these five points we have used the work of the author in: "The Decentralization of Higher Education," *Review of Higher Education*, Vol. V, No. 9 (July-September, 1976), pp. 42-48.
11. Horacio Flores de la Peña, "Economic Development and the Planning of Higher Education," *University Planning in Mexico*, various authors (Mexico City: UNAM, 1970), pp. 25-26.
12. "The Declaration of Tepic," *Review of Higher Education*, Vol. I, No. 4 (October-December, 1972), pp. 75-77.
13. See Chapter 2.

3 EFFECTIVENESS OF THE HIGHER EDUCATION SYSTEM

Social Objectives

Opportunities for Access to Higher Education

In Chapter 2 we presented statistics on the growth of the system of higher education in recent years. During 1970–1976 the total increase in student enrollments was 149 percent which, in absolute numbers, meant a doubling of the numbers of students in the last four years. Should this trend continue it can be expected that by 1980 student enrollments in the system of higher education will total approximately one million.

This expansion of educational services at the higher level is the result of intensified efforts to improve educational opportunities for students. Nonetheless, the universities have been accused of being elitist, because the majority of students come from the upper and middle classes with only a small percentage of the students coming from lower income families. Critics of the system argue that the universities prepare individuals who are oriented toward serving themselves rather than society, that they lack a sense of commitment toward solving community problems. We will consider this last aspect in more detail later. At this point we will examine the elitist character of institutions of higher learning.

In 1960, more than 2.7 percent of the twenty to twenty-four age group was served by higher education. In 1970 this figure totaled 5.4 percent and it reached 10.4 percent in 1975. However, even with this increase in enrollment, the universities have retained their elitist character: students come primarily from the

middle and upper classes. Although we do not have data to establish precise percentages, data which is available on the attendance of students at other levels of the educational system make it possible to identify the type of student who enters higher education.

In the case of primary school, the problem is not just to guarantee access to all children of school age, but to get the children to complete the school cycle. Of every one-hundred students who entered the first year of primary school in 1959 only twenty-two completed the sixth year in 1964. This situation improved in later years with thirty-two out of one-hundred finishing in the 1965-1970 period. The figures moreover differ depending upon whether urban or rural regions are being examined.

The problem of the inequitable social composition of the student population begins at the primary level. The rates of retention indicate that conditions and factors which are external to the educational systems itself adversely affect student enrollments. The interruption in studies at the primary level is primarily due to problems which affect the students' family life - in particular, poor economic conditions. The low retention rate of primary school students in rural areas indicates that the problem is most serious in these areas. A considerable number of people live in widely dispersed small communities, where educational services are not readily available; another large group consists of those who have left the countryside for the very reasons we have just mentioned, and now finds itself in large urban slums.

The predominance of middle and upper class students in higher education does not reflect restrictions imposed by the universities, since in effect they have kept their doors open to all applicants and only a few are not admitted. Rather, the cause lies in the poor living conditions of the people, and in the centralization of higher education. Of every one-hundred students in primary school in 1970 two went on to higher education. In 1976 this proportion was one-hundred to four.

The open admissions procedure which has been established in most of the institutions does not imply that, because of the mere fact of making entrance easy, the universities are providing more opporutnities for education, nor does it mean that these op-

portunities would be reduced if rigorous admission standards were established. In the long run, any increase in opportunities for access to higher education as a social objective must be considered in relationship to two factors: the capacity of applicants to carry on higher studies with the necessary rigor, and the capacity of the university to offer them with the necessary efficiency. Without this double capacity, open admission does not necessarily mean an increase in educational opportunities.

Higher Education and Research

Of the three functions assigned to institutions of higher education, teaching receives the major portion of the budgetary resources. However, even if this situation may explain the lack of activities directed toward cultural diffusion, it does not explain why there is very little or no research carried out in these institutions. That is, it is not so much due to a lack of economic resources that so little research is carried out, but rather for reasons related to institutional capacity in general, to the academic concepts which govern teaching activites, and to the general directions established by the university.

The first obstacle has its roots in the type of teaching which is offered, which does not consider that active participation on the part of the student is an important element in learning, and which stresses transmission of knowledge and receptivity to information. To proceed from the mere transmission of knowledge to the creation of new knowledge would necessitate the active participation of the student. Professors, programs of study, and methods of teaching are all related to this problem. Since most professors did not have any research experience in their own training, they cannot train their students to develop sound research skills. Furthermore, if the professor only transmits knowledge which is already known, he will limit the capacity of his students to learn, properly speaking. This type of faculty member usually applies obsolete methodologies which are of little or no help to the student. In effect, all the problems we have considered here interact with each other to affect the capacity of the institutions to carry on research. Even in those institutions which do develop research programs, the relationship between

research and teaching is very limited, since the research is carried out independent of programs of teaching. The teacher-researcher is not a common person.

Although there are exceptions, it can be said that in the universities where there are no postgraduate studies, there is very little research, but even the existence of postgraduate studies does not categorically guarantee that research will be carried out. Studies at the master's level which are not based on research have recently been established. Nevertheless, one cannot ignore the fact that the extension of postgraduate studies in the entire country and the proliferation of opportunities - which are now offered to faculty members to take research-oriented courses both within the country and abroad - have brought about important changes in teaching, as graduates of these studies return to the teaching faculties of their institutions. The impact of this will become more significant as groups of professors are formed who will encourage actions directed toward reform of the present attitude toward research. At the present time, institutions which are dedicated exclusively to postgraduate studies and those which offer them at the level of the licentiate, already have various years of experience in giving courses for advanced degrees and have the necessary resources to carry on research. In fact, the few research programs which are being carried on within the system of higher education are being undertaken in these institutions.

But the structure and the conceptual framework of teaching are not the only problems for research. Experience has shown that it is not enough to educate professors at the postgraduate level if they are not able to apply their learning when they return, in programs which are specifically related to teaching and research. With the establishment of programs to train university faculty, during the last four years it has been possible to bring a modest (but significant when compared with earlier periods) number of postgraduates into the university teaching corps.

The lack of planning and the inadequate relationship with both public and private production and service sectors is another great obstacle to the development of research in Mexico's institutions of higher education. On the one hand, education becomes separated from the problems and needs of society, a circum-

stance which is reflected in teaching and in the type of learning which is transmitted; on the other hand, there is wastefulness in the operation of the institution, which might have served both its region and the country at large with greater efficiency in the study and solution of specific problems.

Conditions of research in universities and institutions of higher learning are not very different from those existing in the country at large. That is to say, there is very little research at the national level. Factors of economic, technological, and cultural dependency have a strong impact on educational institutions, slowing down the development of the capacity for research. It is hoped, however, that through the development of research these problems of dependency may be overcome. In the final months of 1976, the National Council of Science and Technology concluded its National Plan for Science and Technology, a work which was carried out under the direct authority of the President of the Republic and which was completed in a period of two years. According to the Plan:[2]

> The basic problem of the functioning of the scientific and technological systems is not so much the lack of equilibrium between the various phases of research and development but fundamentally the lack of a coherent relationship among these very factors and a respect for the educational and productive activities of the country. There are very few connections between basic research, applied research, and experimental development, so that no continuum is established which would permit the generation of new knowledge and its application.

Furthermore, in spite of the fact that the federal and state governments have the responsibility for the maintenance of higher education in Mexico - 85 percent of the student enrollment is in public institutions - they do not use the research potential of the universities and institutes to solve, or at the very least, to study problems which are accutely affecting the country, such as health and agricultural production, to mention just two of the most important. A change in this relationship would no doubt not only permit research to develop but would also overcome the lack of articulation mentioned in the plan.

Higher Education and Social Problems

Institutions of higher education have a social function to the degree that their objectives may be identified with the solution of national problems and with the provision of services to the community. Nevertheless, in practice it has not always been possible to achieve these objectives for various reasons - the organization and content of teaching, the relationships established by the institutions themselves with other sectors of society, and the lack of study programs specifically oriented toward societal needs.

The contribution of higher education to the solution of social problems depends fundamentally on two factors: the establishment of programs of study directed toward this goal; and the capacity of the institutions to carry out these programs.

To the extent that graduates of the educational institutions match the areas of specialization the country needs, the universities are in fact responding to social goals. However, the contribution of educational institutions to the social problems of the country can be looked at in a completely different way. In fact, the institutions are providing an excessive number of graduates in some careers and very few in others. Whether this is good or bad depends on factors which are external to the institutions themselves. It is sufficient to note that a few years ago, as many as 30 percent of the students in the universities were involved in studying economics, law, public accounting, and management in its various aspects.

Although there has not been a national economic and development plan which outlines the necessities of the country in relationship to the professions, we can determine the exact number of graduates in some fields and then compare this figure with the occupational market and the number of professionals actually required. In the case of medicine, for example, the demand for admission has increased explosively in recent years, despite the fact that the number of hospitals and health institutions and, thus, the number of graduates who have any possibility at all of finishing their degrees, is severely limited. Nonetheless, medical schools will continue to admit students who have no possibility of receiving the clinical and practical hospital training which is demanded by their curriculum. On the other hand, one must

also determine if, in the case of medicine, there are not too many graduates in relation to health needs as determined by government officials.

Unemployment and underemployment by university graduates is not a problem for which the educational institutions can be exclusively blamed. Neither is the problem exclusive to Mexico, since as Edgar Faure has pointed out, it has been present worldwide for a number of years. Furthermore the trend is increasing, especially for those students who only finished primary or secondary school.[3]

To the problem of social needs and unemployment, one must add the problem of internal efficiency of educational institutions. On the one hand, the increase in the social demand for education has led to a broadening of educational services which, in turn, has created a need for more professors, more physical facilities, and more economic resources. Since these resources have not been available in sufficient quantities, there has been no way to avoid a reduction in the quality of education; it has been necessary to handle a large number of students with only those resources already at hand. This is especially true with regard to faculty. Although there are more and better school buildings and increased budgets, the teaching staff, even though it has increased in numbers, often consists of graduates who have not received any training in teaching. With respect to economic resources, although they have increased, they continue to be insufficient and are applied to teaching at the expense of research. Thus, the possibility that the universities will accomplish their social objectives is diminishing as a direct result of the reduction in the quality of education.

There is no way that the quality of education can be guaranteed unless an educational institution identifies with the social objectives of higher education (and conversely, it is not enough for an institution to show its interest and dedication to these objectives while its functions are being carried out in an unsatisfactory or insufficient way). It is consequently necessary that both aspects be combined - institutional efficiency and orientation toward social objectives. So long as the enrollment in institutions of higher education is composed of students coming from the up-

per and middle classes of society, it cannot be said that access to higher education is an important factor in social mobility. The students' commitment to society will certainly remain negligible as long as institutions fail to take into account the relationship which ought to exist between education and society.[4]

At present, a period of social service is obligatory according to the law for all those who study a profession and wish to obtain a professional degree. This was conceived as an activity which would permit the graduate to get closer to the social and economic problems of a particular region. The student is expected to apply his learning and serve the community. Originally, social service was considered necessary to compensate for the isolation of the student during the time he was at the university. Unfortunately, the social service program has not been able to operate efficiently and has become, instead, a mere formality on the way to getting a degree.

In general, the social objectives of higher education have not been attained, in spite of the fact that they are mandated by the legal regulations which govern the universities and institutes.

Innovation of the System of Higher Education

Changes in Institutional Organization

One of the characteristics of the system of higher education has been its resistance to change. Scarcely a few years ago several programs designed to transform the administrative and academic structure from its former traditional patterns were initiated. Since their origin, the universities have been divided into faculties and schools, each developing its activities independently. This has resulted in isolating them from each other and in increasing the costs of the institution, since their common activities, equipment, and other resources are not shared. All of this points to a very imperfect internal communications system and the difficulties involved in coordinating and integrating functions at the institutional level.

The problem has become more complex as the numbers of institutions increase and their activities grow. It becomes par-

ticularly apparent when an institution attempts to undertake some major structural or operational change. In the face of this kind of problem the choice has been primarily to study the experiences of other countries and try to introduce foreign models. The results are very uneven, a fact which is related to many circumstances, from the size of the institution and the number of its students to the type of faculty members involved in the change. In some places, there has been an arrangement which maintains the division of faculties and schools but introduces departmentalization for the purpose of organizing teaching only. Although these changes have not been systematically evaluated, in those places where departmentalization has been introduced it has not really worked. In other cases where both the traditional and departmental organizations were maintained, the traditional form has had the upper hand.

However, some recently created institutions have introduced new organizational models. This is the case of the Metropolitan University which opened for regular activities in 1974. The university is divided into three academic units, geographically dispersed around the metropolitan region in the valley of Mexico. It has an overall rector for the three units, and collegiate bodies which are made up of representatives for each unit, but the subunits also have a vice-rector and their own collegiate governing bodies. Instead of faculties and schools, there are divisions based on areas of knowledge which are in turn divided into departments according to specific discipline or by the homogeneous grouping of other disciplines.

With respect to administration in general, traditional procedures have been maintained and in only a few institutions has budgetary decentralization been put into effect. The administration of higher education still suffers from many limitations, a fact which really has its origins in the lack of specialized personnel for administrative tasks - with the exception of public accountants and controllers who do receive professional training. The problems of the administration of higher education have recently attracted the attention of authorities at the highest level in educational institutions, and projects have been designed for the training and technical preparation of administrative person-

nel at different levels and in different areas. At the present time, there are also plans for drawing up budgets for each program, a policy which may assume major importance in the face of new procedures and systems for the disbursement of public funds. Models for systemwide curriculum planning are also in the design stage.

Curricular Innovation

Resistance to curricular change is found not only in the institutions but among their students. The educational institutions themselves for the most part do not have specialists in research or in educational technology who are capable of creating experiments in curriculum design and teaching methods. At the national level, the rectors and directors of the institutions have introduced a considerable number of recommendations on curricular matters, but these have only partially been accepted by individual students. A 1971 agreement on the make-up of master's level programs proposed reducing the duration of the programs from six to five years; those who concurred with the proposal felt that this could be accomplished through the introduction of new teaching methods and without any serious effect on the content or level of learning. The idea was accepted in principle, but it ran into trouble because the changes proposed required educational specialists who simply were not available, not to mention an expanded number of thoroughly committed full-time faculty members. Consequently, the plan was not widely adopted. Other proposals met the same fate, including one which involved establishing a systemwide academic credit plan; the scarcity of faculty members qualified to set up new courses resulted in the failure of this program. It did, however, bring to light the existence of academic programs which demanded excessive faculty time and it produced a few positive changes in various courses of study.

Today there are better possibilities for curriculum change, since there are now some specialists who have been trained in this field. But, considering the number of institutions and the extreme variety of educational services offered, it is highly unlikely that any major curricular innovations will occur. It has been

possible to produce a few specialists in educational technology, through the National Association of Universities' program of courses and workshops for faculty members. In some universities it has even been possible to set up centers of departments for the training of local faculty members, and this is being continued.

Three curricular innovations have been introduced in a number of institutions: the so-called "core program," interdisciplinary studies, and reduction in the number of years required for certain higher degrees. Core programs have fulfilled the function of providing general education in the early years, thereby reducing program inflexibility and leaving students with more options for continuing their studies in various fields. Interdisciplinary studies have permitted the hitherto uncommon practice of combining traditional fields of study in new ways which are more consonant with the problem-solving approach to learning. The new Metropolitan University is one of the few institutions that have introduced all three new programs. Student reaction has been very mixed, with evidence indicating, in general, their preference for the familiar and their skepticism over any new program labeled "experimental." Thus, the students have tended to shy away from the shortened *licenciatura* courses, on the theory that longer courses must be better.

To sum up, some changes have occurred and the possibility for introducing more innovations is improving. Nevertheless, the system is generally resistant to altering traditional patterns.

Efficiency

Institutional Evaluation

At least two forms of institutional evaluation can be singled out: self-study and outside evaluation. Both types can be either ongoing or periodic or they can be brought to bear on certain areas for specific purposes.

Institutional evaluation, with an eye to spotting the problems and shortcomings of the universities, has been considered for some time. Self-study was proposed early on (1969) as the preferred method, since it provided the least threat to any in-

stitution. These early efforts did not succeed, despite the fact that they were promoted by the National Association of Universities. At that time the association itself was carrying out an evaluation of nine universities, which was, in fact, completed.[5] That evaluation was the only one ever carried out with strict methodology, and it managed to identify the main problems of higher education in the country. In 1972, another study was planned, this time on a systemwide basis, to evaluate all courses of study leading to degrees. Circumstances beyond the association's control forced it to abandon the project, but some positive response was forthcoming from individual schools and faculties. The most recent evaluative effort was undertaken by the Secretariat of Education. Self-study procedures were designed and a few institutions used them, but no results were published.

The difficulty in implementing evaluation procedures results from the fact that evaluation is not one of the universities' normal functions. Therefore, the universities do not perceive a need for it, nor is there any inclination on the part of officials and faculty to have outsiders evaluate them. Nevertheless, a few evaluation studies have been done, chiefly in private institutions and these have been most useful when they have focused on specific problems or sectors and have not been related in any way to authorities, either institutional or governmental.

In order to measure the efficiency of any institution, one must evaluate both the organizational systems and the staff. Since the efficiency of the system depends, to a large degree, upon the effectiveness of its personnel, it is not hard to see why it is frequently so difficult to get an evaluation accepted. The lack of such an analysis, however, makes it almost impossible to know what conditions prevail within the system. For an even broader application of institutional evaluation, one would have to have not only internal indicators of development but also basic indicators, measurement standards and norms, sufficiently well-developed to be able to apply them to a given institution.

Internal Efficiency

The internal efficiency of educational institutions can be measured by the relationship between the numbers of students

admitted and the numbers graduated. It can also be measured in qualitative terms, by relating productivity to market demand.

A 1974 study examined the internal efficiency of three representative Mexican universities, of different sizes, but having similar academic structures and legal codes. The number of graduates was used to represent the product of the universities and faculty and financial resources were considered as variables. The students selected entered the universities in 1967 and completed their studies four, five, or six years later - upon completing degree programs of varying lengths. The study found that internal efficiency is better when financial resources are greater and when proportionately higher amounts are spent at the advanced level. This finding is important because it means that internal efficiency is higher in those institutions that have students at the most advanced levels - assuming more or less constant financial support. It was also determined that efficiency was greater in institutions with higher proportions of full- and half-time faculty members. Finally, the newest universities and those with smaller enrollments had the highest efficiency ratings. (All of these factors characterized a single university.)

At the system level, we can estimate internal efficiency by a simple input-output evaluation. To arrive at more precise figures, it would be necessary to take separate samples of each class in a student age-group, each different degree program - since they vary in length - and then combine the results into a weighted average. In 1969-70, 68,193 students entered the higher education system. Five years later, 39,186, about 57.5 percent, graduated. The following year, admissions were 81,256 and five years later 44,722, or 55 percent graduated. Finally, in 1971-72, 91,331 were admitted, of whom 52,185 or 57 percent graduated five years later. (See Table 9 for additional figures.)

Quite apart from the figures relating to time, it is important to know if the record of internal efficiency is adequate to suggest that the universities are producing graduates in sufficient numbers when cost factors are considered, whether, for example, an average admissions to graduates ratio of 55 percent or 57 percent is acceptable. The fact is that no one knows what happens to the dropouts, nor has any study been made of their reasons for

TABLE 9

New Admissions (Licenciate) and Graduates, 1969–70/1975–76

School Year	New Admissions	Graduates
1969-1970	68,193	22,904
1970-1971	81,256	25,793
1971-1972	91,331	29,396
1972-1973	110,846	33,106
1973-1974	125,731	39,186
1974-1973	149,729	44,722
1975-1976	162,662	52,185

Source: *La enseñanza superior en México, 1970–1976*, Asociación Nacional de Universidades e Institutos de Enseñanza Superior, México, 1976.

leaving, except to note the probability of economic pressures. It is assumed, however, that most of them do enter the work force.

As for those who do graduate, very little is known about their location in the professional market. No one knows whether or not they are fully employed in their chosen profession or if economic or other conditions have led them in other directions, or even if they are unemployed or underemployed. Nor is it known how acceptable their academic preparation is - technically or otherwise. All these factors need to be studied by the institutions themselves, since it is obvious that internal efficiency - qualitatively speaking - depends on feedback from the market place.

Conclusions

Is the system of higher education efficient? No easy categorical answer is possible. Rather than attempt any such answer, an effort must be made to construct a profile of the complex mixture of administrators, teachers, students, plans, programs, facilities, budgets, and resources which comprise higher education.

There is no denying the contributions of higher education to national development, but to evaluate the specific roles of thousands of graduates and what they have done for the country

in the last thirty or forty years would require a detailed examination of such fields as communications, health, energy, industry, agriculture, sciences, and so on. In each of these and other areas, the country has been able to overcome backward conditions and to establish new activities; this has only been possible because of the universities. Thus, to point out what is wrong with the system would clearly ignore its many successes.

The educational system has resisted change, in part because of a lack of enough qualified staff and also because it has been asked to change at a time when growth patterns have been extraordinarily demanding. In spite of all this, during the past few years, the need for change and to some extent the capacity to achieve it has been recognized. The new awareness has been the result of a long process, in which the urgent need for innovation has been suggested as an absolutely necessary precondition for the fulfillment of goals as yet only partially achieved.

University-community relations are the key to understanding the system's limitations with respect to the solution of national social problems. In a developing society, there is little that the universities can do in this regard, if they themselves remain "underdeveloped," that is to say, using improvised, inefficient, and incompetent methods in an atmosphere which demonstrates a lack of social conscience. A critical attitude toward national shortcomings is not enough; concrete suggestions for improvement are needed. The ability to criticize carries with it an obligation for self-criticism. Research is a vital aspect of development. If a university does not carry on research, it is not properly carrying out its goals. Real development only occurs when a country succeeds in acquiring its own capacity to solve social, economic, and scientific problems, and it is in this realm that the universities should be making their contribution.

To the extent that they do so, they will have increased their contribution to national development and their right to share in its benefits.

Mexico's system of higher education has been forced to open its doors to ever greater numbers of students. In view of the real limitations of educational institutions and of the national need for trained professionals and specialists, one might ask: "Where

lies the social goal of higher education, in admissions or in graduates?" An indiscriminate admission policy does not seem to guarantee efficient output of graduates, nor consequently, does it guarantee effective participation - either by the institutions themselves or their graduates - in the solution of national problems. The achievement of the social objectives of higher education lies in the solution to this paradox.

FOOTNOTES

1. Cited in *The Recent Evolution of Education in Latin America*, UNESCO VI, No. 234, Mexico, 1974, p. 94.
2. "National Plan for Science and Technology," National Council for Science and Technology, Mexico, 1976, p. 16.
3. Edgar Faure, *et al.*, *Learning to Be*, Education for the Future, UNESCO, Madrid, 1973, p. 161.
4. Alfonso Rangel Guerra, "University and Development," *Review of Higher Education*, ANUIES, Vol. 4 (October-December, 1975), p.26.
5. This study was carried out jointly by ANUIES and Education and World Affairs. The work was done under the direction of Dr. Richard G. King of Harvard University and Alfonso Rangel Guerra of the Association. Other persons assisted in various stages of the process. The work was published in English in 1971 and in Spanish in 1972. (See Bibliography.)
6. Elioth Gálvez, Herculano Ríos, and Rafael Villagómez, *The Efficiency of Higher Education in Three Mexican Universities*, ANUIES, Mexico, 1974.

APPENDIX

Higher Education Institutions in Mexico*

Public Autonomous Universities

1. Universidad Autónoma de Aguascalientes.
2. Universidad Autónoma de Baja California.
3. Universidad Autónoma de Baja California Sur.
4. Universidad del Sudeste.
5. Universidad Autónoma de Coahuila.
6. Universidad Autónoma Agraria Antonio Narro.
7. Universidad Autónoma de Chiapas.
8. Universidad Autónoma de Chihuahua.
9. Universidad Autónoma de Ciudad Juárez.
10. Universidad Nacional Autónoma de México.
11. Universidad Autónoma Metropolitana.
12. Universidad "Juárez" del Estado de Durango.
13. Universidad Autónoma de Guerrero.
14. Universidad Autónoma de Hidalgo.
15. Universidad Autónoma del Estado de México.
16. Universidad Michoacana de San Nicolás de Hidalgo.
17. Universidad Autónoma del Estado de Morelos.
18. Universidad Autónoma de Nayarit.
19. Universidad Autónoma de Nuevo León.
20. Universidad Autónoma "Benito Juárez" de Oaxaca.
21. Universidad Autónoma de Puebla.
22. Universidad Autónoma de Querétaro.
23. Universidad Autónoma de San Luis Potosí.
24. Universidad Autónoma de Sinaloa.
25. Universidad de Sonora.
26. Instituto Tecnológico de Sonora.

*This list includes 230 institutions, including those which opened in September 1976.

27. Universidad Autónoma "Juárez" de Tabasco.
28. Universidad Autónoma de Tamaulipas.
29. Universidad Autónoma de Tlaxcala.
30. Universidad de Yucatán.
31. Universidad Autónoma de Zacatecas.

Public State Universities

1. Universidad de Guanajuato.
2. Universidad de Guadalajara.
3. Universidad Veracruzana.
4. Universidad de Colima.

Institutions Dependent on the Secretariat of Public Education

Technical Schools

1. Instituto Politécnico Nacional.
2. Centro de Investigación y Estudios Avanzados del Instituto Politécnico Nacional.
3. Centro Nacional de Enseñanza Técnica Industrial.
4. Instituto Tecnológico Regional de Aguascalientes (Aguascalientes).
5. Instituto Tecnológico Regional de Tijuana (Baja California).
6. Instituto Tecnológico Regional de La Paz (Baja California Sur).
7. Instituto Tecnológico Regional de Campeche (Campeche).
8. Instituto Tecnológico Regional de Saltillo (Coahuila).
9. Instituto Tecnológico Regional de La Laguna (Coahuila).
10. Instituto Tecnológico Regional de Piedras Negras (Coahuila).
11. Instituto Tecnológico Regional de Tuxtla Gutiérrez (Chiapas).
12. Centro Regional de Enseñanza Técnica Industrial de Soconusco (Chiapas).
13. Instituto Tecnológico Regional de Chihuahua (Chihuahua).
14. Instituto Tecnológico Regional de Ciudad Juárez (Chihuahua).

15. Instituto Tecnológico Regional de Parral (Chihuahua).
16. Instituto Tecnológico Regional de Colima (Colima).
17. Instituto Tecnológico Regional de Durango (Durango).
18. Instituto Tecnológico Regional de León (Guanajuato).
19. Instituto Tecnológico Regional de Celaya (Guanajuato).
20. Instituto Tecnológico Regional de Acapulco (Guerrero).
21. Instituto Tecnológico Regional de Pachuca (Hidalgo).
22. Instituto Tecnológica Regional de Ciudad Guzmán (Jalisco).
23. Instituto Tecnológico Regional de Toluca (México).
24. Instituto Tecnológico Regional de Tlalnepantla (México).
25. Instituto Tecnológico Regional de Morelia (Michoacán).
26. Instituto Tecnológico Regional de Jiquilpan (Michoacán).
27. Instituto Tecnológico Regional de Zacatepec (Morelos).
28. Instituto Tecnológico Regional de Tepic (Nayarit).
29. Instituto Tecnológico Regional de Nuevo León (Nuevo León).
30. Instituto Tecnológico Regional de Oaxaca (Oaxaca).
31. Instituto Technológico Regional del Istmo (Oaxaca).
32. Instituto Tecnológico Regional de Tuxtepec (Oaxaca).
33. Instituto Tecnológico Regional de Puebla (Puebla).
34. Instituto Tecnológico Regional de Tenuacán (Puebla).
35. Instituto Tecnológico Regional de Querétaro (Querétaro).
36. Insciituto Tecnológico Regional de Chetumal (Quintana Roo).
37. Instituto Tecnológico Regional de San Luis Potosí (San Luis Potosí).
38. Instituto Tecnológico Regional de Culiacán (Sinaloa).
39. Instituto Tecnológico Regional de Los Mochis (Sinaloa).
40. Instituto Tecnológico Regional de Hermosillo (Sonora).
41. Instituto Tecnológico Regional de Nogales (Sonora).
42. Instituto Tecnológico Regional de Villahermosa (Tabasco).
43. Instituto Tecnológico Regional de Ciudad Victoria (Tamaulipas).
44. Instituto Tecnológico Regional de Nuevo Laredo (Tamaulipas).
45. Instituto Tecnológico Regional de Matamoros (Tamaulipas).

46. Instituto Tecnológico Regional de Ciudad Madero (Tamaulipas).
47. Instituto Tecnológico Regional de Apizaco (Tlaxcala).
48. Instituto Tecnológico Regional de Minatitlán (Veracruz).
49. Instituto Tecnológico Regional de Orizaba (Veracruz).
50. Instituto Tecnológico Regional de Veracruz (Veracruz).
51. Instituto Tecnológico Regional de Mérida (Yucatán).
52. Instituto Tecnológico Regional de Zacatecas (Zacatecas).

Agriculture and Cattle-Raising

1. Instituto Tecnológico Agropecuario de Campeche (Campeche).
2. Instituto Tecnológico Agropecuario de La Partida (Coahuila).
3. Instituto Tecnológico Agropecuario de Durango (Durango).
4. Instituto Tecnológico Agropecuario de Huejutla (Hidalgo).
5. Instituto Tecnológico Agropecuario de Mascota (Jalisco).
6. Instituto Tecnológico Agropecuario de La Huerta (Michoacán).
7. Instituto Tecnológico Agropecuario de Xoxocotla (Morelos).
8. Instituto Tecnológico Agropecuario de Comitancillo (Oaxaca).
9. Instituto Tecnológico Agropecuario de San Bartolo Tuxtepec (Oaxaca).
10. Instituto Tecnológico Agropecuario de Pinotepa Nacional (Oaxaca).
11. Instituto Tecnológico Agropecuario de Chetumal (Quintana Roo).
12. Instituto Tecnológico Agropecuario de Tampico (Tamaulipas).
13. Instituto Tecnológico Agropecuario de Ignacio de La Llave (Veracruz).
14. Instituto Tecnológico Agropecuari · de Ursulo Galván (Veracruz).
15. Instituto Tecnológico Agropecuario de Tizimin (Yucatán).
16. Instituto Tecnológico Agropecuario de Mérida (Yucatán).

17. Instituto Tecnológico Agropecuario de El Salto (Durango).

Fisheries

1. Instituto Tecnológico de Pesca (Veracruz).

Other Institutions Dependent on the Secretariat of Public Education*

1. Escuela Normal Superior de México.
2. Escuela Nacional de Antropología.
3. Centro de Investigaciones Superiores del Instituto Nacional de Antropología e Historia.
4. Escuela Nacional de Conservación y Restauración de Bienes Culturales.
5. Escuela Normal de Especialización.
6. Escuela Nacional de Biblioteconomía y Archivonomía
7. Escuela de Diseño y Artesanía.
8. Escuela de Arte Teatral.

Institutions Dependent on Other Secretariats

Secretary of National Defense

1. Escuela Médico Militar (Distrito Federal).
2. Escuela Militar de Odontología (Distrito Federal).
3. Escuela Militar de Ingenieros (Distrito Federal).
4. Escuela Superior de Guerra (Distrito Federal).

Secretariat of Health and Welfare

1. Escuela de Salud Pública (Distrito Federal).

Secretariat of the Treasury

1. Escuela Nacional de Capacitación Aduanera (Distrito Federal).

Secretariat of Agriculture and Animal Husbandry

1. Escuela Nacional de Agricultura (Chapingo, Estado de México).
2. Colegio de Postgraduados, Escuela Nacional de Agricultura (Chapingo, Estado de México).

*All in the federal district.

3. Colegio Superior de Agricultura Tropical (Cárdenas, Tabasco).

Secretariat of the Navy

1. Escuela Náutica "Antonio Gómez Maqueo" (Mazatlán, Sinaloa).*
2. Escuela Náutica Mercante de Tampico (Tampico, Tamaulipas).*
3. Heróica Escuela Naval Militar (Antón Lizardo, Veracruz).
4. Escuela de Aviación Naval (Las Bajadas, Veracruz).
5. Escuela Náutica Fernando Siliceo (Veracruz, Veracruz).

Quasigovernmental Institutions

1. Centro de Investigación Científica y Educación Superior de Ensenada (Ensenada, Baja California Norte).
2. Instituto Nacional de Astrofísica, Optica y Electrónica (Tonantzintla, Puebla).
3. Centro de Investigación y Docencia Económica (Distrito Federal).

State Government Institutions

1. Escuela Normal Superior del Estado (La Paz, Baja California Sur).
2. Escuela Normal Superior del Estado (Saltillo, Coahuila).
3. Escuela Normal Superior de Chiapas (Tuxtla Gutiérrez, Chiapas).
4. Escuela Normal Superior del Estado (Chihuahua, Chihuahua).
5. Escuela Normal Superior Oficial (León, Guanajuato).
6. Escuela Normal Superior del Estado (Guanajuato, Guanajuato).
7. Escuela Normal Superior de Jalisco (Guadalajara, Jalisco).
8. Escuela Normal Superior de Morelos (Cuernavaca, Morelos).
9. Escuela Normal Superior del Estado de México (Toluca, Estado de México).
10. Escuela Normal Superior del Estado (Tepic, Nayarit).

*In 1977 they became dependent upon the Secretariat of Communication and Transportation.

11. Escuela Normal Superior del Estado (Monterrey, Nuevo León).
12. Escuela Normal Superior del Estado (Puebla, Puebla).
13. Escuela Normal Superior de Tlaxcala (Tlaxcala, Tlaxcala).

Independent Private Institutions

1. El Colegio de México (Distrito Federal).
2. Escuela Libre de Ingeniería Municipal (Distrito Federal).
3. Escuela Libre de Homeopatía de México (Distrito Federal).
4. Escuela Libre de Derecho (Distrito Federal).
5. Instituto Tecnológico Autónomo de México (Distrito Federal).
6. Instituto Tecnológico y de Estudios Superiores de Monterrey (Monterrey, Nuevo León).*
7. Instituto de Ciencias Sociales, Económicas y Administrativas, S.C.L. (Distrito Federal).

Officially Accredited Private Institutions

1. Escuela Normal de Especialización Regional de Saltillo (Saltillo, Coahuila).
2. Centro Universitario del Norte (Piedras Negras, Coahuila).
3. Universidad Latinoamericana (Distrito Federal).**
4. Escuela de Periodismo "Carlos Septién García (Distrito Federal).
5. Escuela Normal Superior, FEP (Distrito Federal).
6. Escuela Bancaria Comercial (Distrito Federal).
7. Escuela Profesional de Contabilidad y Administración "Maestro José Calvo", S.C. (Distrito Federal).
8. Escuela Comercial Cámara de Comercio (Distrito Federal).
9. Universidad Iberoamericana (Distrito Federal).
10. Instituto de Computación y Mecanización de México (Distrito Federal).
11. Instituto Leonardo Bravo (Distrito Federal).
12. Instituto Superior de Estudios Comerciales (Distrito Federal).
13. Instituto de Cultura Superior (Distrito Federal).

*Also has branches in: La Laguna y Saltillo, Coahuila; Distrito Federal, Atizapán, Estado de México; Querétaro, Querétaro; Guaymas y Ciudad Obregón, Sonora.

**Some of their studies are recognized by the Universidad Nacional Autónoma de México.

14. Instituto Tecnológico Mexicano (Distrito Federal).
15. Tecnológico de Estudios Contables y Administrativos (Distrito Federal).
16. Colegio Español de México (Distrito Federal).
17. Escuela Normal Superior "Nueva Galicia", A.C. (Guadalajara, Jalisco).
18. Escuela de Estudios Comerciales y Administrativos (Naucalpan de Juárez, Estado de México).
19. Escuela Normal Superior "Juana de Azbaje" (Zamora, Michoacán).
20. Escuela Normal Superior "Labastida" (Monterrey, Nuevo León).
21. Escuela Normal de Especialización (Monterrey, Nuevo León).
22. Escuela Normal Superior del Sureste "Lic. Benito Juárez", A.C. (Oaxaca, Oaxaca).
23. Escuela Normal Superior "Benavente" (Puebla, Puebla).
24. Universidad del Pacífico (Mazatlán, Sinaloa).

Private Institutions Recognized by the States

1. Centro de Enseñanza Técnica y Superior (Mexicali y Tijuana, Baja California Norte).
2. Escuela Normal Superior "Porfirio Parra" (Chihuahua, Chihuahua).
3. Instituto "América" (León, Guanajuato).
4. Escuela Normal Superior Anexa al Instituto Justo Sierra (León, Guanajuato).
5. Escuela Normal Superior de Celaya (Celaya, Guanajuato).
6. Centro de Estudios Universitarios de Xochicalco (Cuernavaca, Morelos).
7. Escuela Normal Superior de Tijuana (Tijuana, Baja California).
8. Universidad de Monterrey (Monterrey, Nuevo León).
9. Instituto Superior de Cultura y Arte de Monterrey (Monterrey, Nuevo León).
10. Universidad Regiomontana (Monterrey, Nuevo León).
11. Centro de Estudios Universitarios de Monterrey (Monterrey, Nuevo León).

12. Universidad de Montemorelos (Montemorelos, Nuevo León).
13. Universidad Autónoma del Norte (Monterrey, Nuevo León).
14. Universidad Mexicana del Noreste (Monterrey, Nuevo León).
15. Universidad Autónoma Popular de Puebla (Puebla, Puebla).
16. Universidad de las Américas (Cholula, Puebla y Distrito Federal).
17. Escuela Normal Superior de Sinaloa (Culiacán, Sinaloa).
18. Escuela Libre de Derecho (Culiacán, Sinaloa).
19. Escuela de Administración y Contaduría Pública (Culiacán, Sinaloa).
20. Escuela Normal Superior de Tamaulipas (Ciudad Victoria, Tamaulipas).

Private Institutions Recognized by Individual Public Institutions*

1. Instituto Cuauhtlatohuac (Tijuana, Baja California Norte) *Universidad Nacional Autónoma de México*.
2. Escuela de Trabajo Social de Tijuana (Tijuana, Baja California Norte) *Universidad Nacional Autónoma de México*.
3. Instituto de Estudios Profesionales de Saltillo, A.C. (Saltillo, Coahuila) *Universidad Autónoma de Coahuila*.
4. Facultades Universitarias de Saltillo, A.C. (Saltillo, Coahuila *Universidad Autónoma de Coahuila*.
5. Instituto de Ciencia y Cultura, A.C. (Saltillo, Coahuila) *Universidad Autónoma de Coahuila*.
6. Instituto Superior de Ciencia y Tecnología, A.C. (Torreón, Coahuila) *Universidad Autónoma de Coahuila*.
7. Escuela Superior de Agricultura Hermanos Escobar (Ciudad Juárez, Chihuahua) *Universidad Autónoma de Chihuahua*.
8. Universidad Anáhuac (Estado de México *Universidad Nacional Autónoma de México*.

*For each institution, the name of the recognizing unit is given.

9. Universidad La Salle (Distrito Federal) *Universidad Nacional Autónoma de México.*
10. Universidad del Valle de México (Distrito Federal) *Universidad Nacional Autónoma de México.*
11. Instituto Panamericano de Humanidades (Distrito Federal) *Universidad Nacional Autónoma de México.*
12. Instituto Internacional Universitario (Distrito Federal) *Universidad Nacional Autónoma de México.*
13. Centro Latinoamericano de Estudios Universitarios (Distrito Federal) *Universidad Nacional Autónoma de México.*
14. Instituto Universitario de Ciencias de la Educación (Distrito Federal) *Universidad Nacional Autónoma de México.*
15. Universidad Tecnológica de México (Distrito Federal) *Universidad Nacional Autónoma de México.*
16. Universidad Femenina de México (Distrito Federal) *Universidad Nacional Autónoma de México.*
17. Universidad Motolinía (Distrito Federal) *Universidad Nacional Autónoma de México.*
18. Universidad Azteca (Distrito Federal) *Universidad Nacional Autónoma de México.*
19. Universidad Latina (Distrito Federal) *Universidad Nacional Autónoma de México.*
20. Universidad Hispano Mexicana (Distrito Federal) *Universidad Nacional Autónoma de México.*
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25. Instituto Technológico y de Estudios Superiores de Occidente (Guadalajara, Jalisco) *Universidad Nacional Autónoma de México.*
26. Instituto Cultural Don Vasco (Uruapan, Michoacán) *Universidad Nacional Autónoma de México.*

27. Escuela de Trabajo Social Cervantes de Monterrey (Monterrey, Nuevo León) *Universidad Nacional Autónoma de México.*
28. Centro Universitario Kennedy (Monterrey, Nuevo León) *Universidad Nacional Autónoma de México.*
29. Instituto Tecnológico y de Estudios Superiores Potosino (San Luis Potosí, San Luis Potosí) *Universidad Nacional Autónoma de México.*
30. Escuela de Trabajo Social de San Luis (San Luis Potosí, San Luis Potosí) *Universidad Nacional Autónoma de México.*
31. Universidad del Noreste (Tampico, Tamaulipas) *Universidad Nacional Autónoma de México.*
32. Universidad de la Villa Rica (Veracruz, Veracruz) *Universidad Nacional Autónoma de México.*
33. Centro de Estudios Cristóbal Colón (Veracruz, Veracruz) *Universidad Nacional Autónoma de México.*
34. Colegio Westminster (Distrito Federal) *Universidad Nacional Autónoma de México.*
35. Universidad del Golfo (Tampico, Tamaulipas) *Universidad Nacional Autónoma de México.*
36. Escuela de Trabajo Social "Vasco de Quiroga" (Distrito Federal) *Universidad Nacional Autónoma de México.*

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